A PUBLICATION OF THE NORTH AMERICAN MYCOLOGICAL ASSOCIATION

The Mycophile Quarterly

APRIL MAY JUNE 2024

NAMAZONA DREAMIN

NAMA_MX24!

A BURNING QUESTION

ARE MORELS SAFE TO EAT?

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Cover

Pacific Northwest NAMA Camp Logo, by Tim Ballard

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Visit www.namyco.org or email Luke Smithson
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Archive Copies
of the newsletter are available in the Publications section of the NAMA website, www.namyco.org

Content
Please contact Mycophile@namyco.org with your article proposals and ideas. We'll get you published!

Submissions
Submissions must be received in editable-document format (do not send pdfs), with photos attached separately (not embedded) and photo credits provided.

NAMA Toadstool Picker's Review

New Organizational Membership

NAMA President Trent Blizzard and Web Admin Kristen Blizzard

As we near the end of our fiscal year, we are getting ready to kick off a whole new membership type: Business Membership. NAMA will begin offering memberships to organizations and businesses for $130 annually, which will include individual membership as well as some additional representation across our web, print and social media platforms.

Watch for our announcements in the coming weeks! I thought it would be helpful for our current membership to share how this change came about.

This initiative began on September 30, 2022, at our Annual Meeting in Missouri during MO-NAMA 22, when we discussed adding new membership levels for organizations such as businesses, nonprofits and even for-profit mycological clubs (which is the predominant mycoorganizational model in Mexico). We saw

not only an opportunity to improve our bottom line but also an opportunity to welcome a whole new bevy of members who had long been excluded. There were many organizations that wanted to support NAMA's mission and interact with us as organizations, not just as private individuals. We wanted to create a way for these non-individuals to engage with us. After discussion, our Executive Committee agreed on the following change to our official policy:

Nonprofits, not-for-profits, corporations, incorporations, limited liability companies and individual vendors may join NAMA as members.

1. Nonprofit memberships shall cost $80 per year.
2. Memberships of other corporate organizations shall be $130 per year.
3. Each of the above memberships shall include one (1) designated individual membership.
4. The Executive Committee shall create and define benefits for this level of membership, such as a listing on the NAMA website and/or an event listed in the *Mycophile Quarterly*.
5. Organization members shall have no voting rights within NAMA.
6. The Executive Committee shall have full authority to allow or deny an organization's membership for any reason it sees fit.

We let this project percolate for over a year as we accomplished other goals; the Executive Committee took it up again over the past year under Membership Manager Luke Smithson's leadership. Luke looked at other associations like the Sierra Club and the Audubon Society. He took some direction from the Executive Committee and we agreed upon the following language:

"The North American Mycological Association (NAMA) partners with companies, organizations and events that we believe have the ability to advance NAMA's

mission and goals. NAMA members and supporters are encouraged to complete their own due diligence and research if they have questions about whether the business-member partners are offering products and services that are appropriate for their preferences and needs. NAMA makes no warranty, expressed or implied, including warranties of merchantability or fitness for a particular purpose, and assumes no legal liability for products or services sold by its business members."

NAMA BUSINESS PARTNERS

Business Partners include the following types of businesses:

- Cultivators of mushrooms/fungi and mushroom-related products
- Purveyors of edible mushrooms and mushroom-related food products
- Purveyors and manufacturers of non-edible mushroom/fungi products and accessories: jewelry, art, clothing, foraging supplies, preservation supplies, loupes, sequencing and microscopy supplies, etc.
- Mushroom/fungi-related events
- Restaurants
- Publishers and authors
- Educators

We decided to offer a simple application form for businesses to obtain information about their organization, its mission and practices. Applications would be approved by our Membership Manager and any applications with questions would be bumped up to the Executive Committee for approval or denial. The goal here was to make it both easy to join and easy for us to set up these new members in our membership management system, while establishing and maintaining oversight to ensure that any and all new members are organizations that are consistent with NAMA's mission.

We decided to create two simple membership levels:

$130

Standard

- Includes 1 individual level membership (which can be used to register for NAMA Events).
- Business is allowed to display NAMA logo and say they are a member
- Business is included in the Business Member directory on namyco.org website

$500

Scholarship Supporting Member

- Includes everything in Standard
- Business is added to NAMA website with a "supporting member" designation.
- $400 of membership fee is added to our Scholarship Fund and the business's name is appended to an Annual Foray Scholarship during that fiscal year.

I personally am thrilled to have a place within NAMA to encompass all the fun and exciting businesses in our mycological community space. Many members have mushroom-focused side hustles or even full-time businesses. They cultivate mushrooms, build products, make food and create art. They advocate causes, plan events, educate people and write books. They are our people! And we welcome them.

Trent Blizzard
President

NAMA News

Learn about the Different Things Happening in and Around NAMA.

Instagratitude!

KATHY YERICH, MARKETING COMMITTEE CHAIR

Are you a mushroom fanatic who has secret spots for finding every species in every season?

If not, don't worry; it's no secret that the NAMA Instagram page is an easy place to find fungi of all sorts! Thanks to all the takeover artists who shared intriguing images and myco-intel of all kinds; because of them, our page continues to grow in popularity. Follow @northamericanmyco to stay on top of the latest in mushroom news from all over North America (and the world), including NAMA forays, webinars, contests and scholarships!

INSTAGRAM TAKEOVER ARTISTS

Heather Brooks	@smallwoodlandthings
Josephine Nakakande	@josephine.ecoagaric
Kristan Trunzo	@earthyshroommama
Jeremy Gaetan	@wildontariomushrooms
Marcus Sowder	@blueridgefungus
Olivia P. Filialuna	@olivia.p.filialuna
Aziza Sikstar	@sikstarart
Zachary Williams-Hunter	@themuhroomhunter
Craig M Trester	@nyc.myc
Jess Starwood	@jess.starwood

MQ NAMA Affiliated Club Spotlight

Regina Johnson, SSMC's Foray Coordinator, "Polypore Queen" and this year's Annual Foray Thursday-evening keynote presenter.

South Sound Mushroom Club

DEBRA SHANKLAND, CLUB RELATIONS COMMITTEE

Experienced. Energetic. Effective. Extraordinary!

These words immediately came to mind in my initial contact with the leadership team of the South Sound Mushroom Club (SSMC). This club will be the main cohost of Pacific Northwest NAMA Camp, NAMA's Annual Foray; as NAMA members, we are fortunate in their partnership!

Based in the State Capital of Olympia, with many members residing in Tacoma, Tumwater and other surrounding communities, Puget Sound in Washington is the "Sound" in this club's name. In addition to the SSMC, six other NAMA-affiliated mycoclubs also serve this huge, diverse state. Many Washington mycophiles are members of one or more of the other clubs in addition to the

SSMC. Why would one join the SSMC if another club is more geographically convenient? My guess is their extensive and diverse programming. You can peruse some of it here, on their excellent website.

SSMC holds educational meetings every 3rd Tuesday of each month. The meetings are held in person but now can also be attended remotely via Zoom (thanks, Covid-19). Like many other NAMA-affiliated clubs, SSMC's membership has ballooned the past few years and their ability to pivot rapidly from in-person to Zoom meetings during the pandemic has roughly doubled their membership to about 450. Nonmembers are welcome at their meetings, so they can "try it before they buy it."

Chris and Rachel Ballou peruse an SSMC ID table.

Nonmembers are also most welcome at their annual Spring Mushroom Festival. This event includes an educational "Kid Zone," cooking classes, an ID station and vendors of all things fungi.

The SSMC also generously offers a lending library of over 50 publications and a few DVDs for their members. This is a service that I haven't seen other clubs provide. It takes good organization and record-keeping (not to mention storage space) and I think it's really valuable for their members, especially newbies who don't yet have their own home mycological library.

Another of their strong draws are their forays, primarily held in state and national forests of the spectacular Olympic Mountain Range and the central Cascades. Forays take place all the way from Mt. Rainier west to the Pacific Ocean and north into the Olympic Mountains. Some of these outings are limited to 12 to 15 participants, providing each attendee with ample individual attention. All

other forays are open to all interested members. Additionally, a camping foray and an overnight foray are offered each year. At all forays, safety is paramount; participants are required to wear hunter orange, safety yellow or other bright colors, and to bring whistles.

On a club foray: Steve Ness and Corinne Srsen with longtime SSMC and NAMA Treasurer Melodie Gates.

The SSMC puts science on the forefront of their programming. They currently have two iNaturalist Projects to which citizen scientists can contribute: the *South Sound Fungal Diversity Survey* and *Hygrophoraceae of Lower Puget Sound*. Further, they were early embracers of genetic sequencing going all the way back to the original North American Mycoflora Project, advancing through its metamorphosis into the Fungal Diversity Survey (FunDiS). Once again, they made lemonade from the pandemic lemon by taking advantage of the fact that sequencing activities can be done individually and remotely, all while contributing to the collective effort. SSMC Sequencing Coordinator Steve Ness says part of these initiatives' success is due to the club's members being "some of the best collectors on the planet." Collecting is just one aspect of genetic sequencing; these members also tirelessly photograph, document on iNaturalist, dry and turn in their specimens. These are superstar community scientists!

If your club hasn't begun genetic sequencing of collected specimens yet, you should know that the results can be very exciting. The SSMC has so far successfully sequenced about 500 species, with a large number of them being

unique. That is, their DNA sequence doesn't match existing "known" species and they may be named as new species with further investigation and publication. Of course, it's also fun to discover a species that hasn't been found in your state before. They recently discovered that one of their specimens collected in the Olympic Mountains is a 100% match to the known *Hygrocybe glacialis*, which has never been documented in North America before! As you might surmise from its name, it's a species that is found in high elevations—the Swiss Alps! If you want to check out this pretty little waxcap, you can find it here.

The SSMC starts 'em young.

This club embraces technology of all kinds and you can find @ SouthSoundMushrooms on Facebook, Instagram and Reddit. Check out this cool reel from @ SouthSoundMushrooms recent NAMA Instagram Takeover.

Past SSMC President Rachel Friedman deserves a great deal of credit for not just keeping the club together during the pandemic, but actually using the time to initiate great new services and energize membership. These days, Rachel continues to serve the club by putting together and circulating their monthly newsletter, *The Spore Report*.

In fact, the SSMC has a stellar and selfless leadership team. Individually, they are talented and knowledgeable; together, they just can't miss. You have likely

met a few of them. Rose Tursi may be familiar to you as NAMA's Visual Arts Committee Chair and as a talented artist and business owner. In writing this story, I learned that she also was not just the SSMC's former Vice President, and not just the club's current Social Media Chair, but that she's also a fantastic foray leader with encyclopedic knowledge of the area's fungi!

You may also know Melodie Gates is our longtime NAMA Treasurer/Finance Committee Chair. Within the realm of the SSMC, she is a current board member at-large as well as former Foray Coordinator and Treasurer of 25 years. Her leadership and knowledge of the club's history is invaluable. Speaking of history, this club formed in the mid-1970s and has been a NAMA-affiliated club since 1989.

NAMA Visual Arts Committee Chair/SSMC member Rose Tursi shares her knowledge of *Hygrophoropsis.*

Regina Johnson is the club's Foray Coordinator, a big job when it's done well! I must thank her for a good deal of information for this story, and passing along some great photos; Regina will be leading the Thursday-evening keynote presentation at Pacific Northwest NAMA Camp, along with other SSMC club members, to situate attendees firmly in the region in terms of geology, topography, botany, history and, of course, mycology. I must also thank current SSMC President Rachel Bouchillon, who put me in touch with other story contributors. It was truly a pleasure corresponding with such intelligent and dedicated individuals. Each one sang the praises of the others. This generous fellowship is surely a recipe for success!

NAMA Forays

Embark on an Immersive Experience with NAMA Forays.

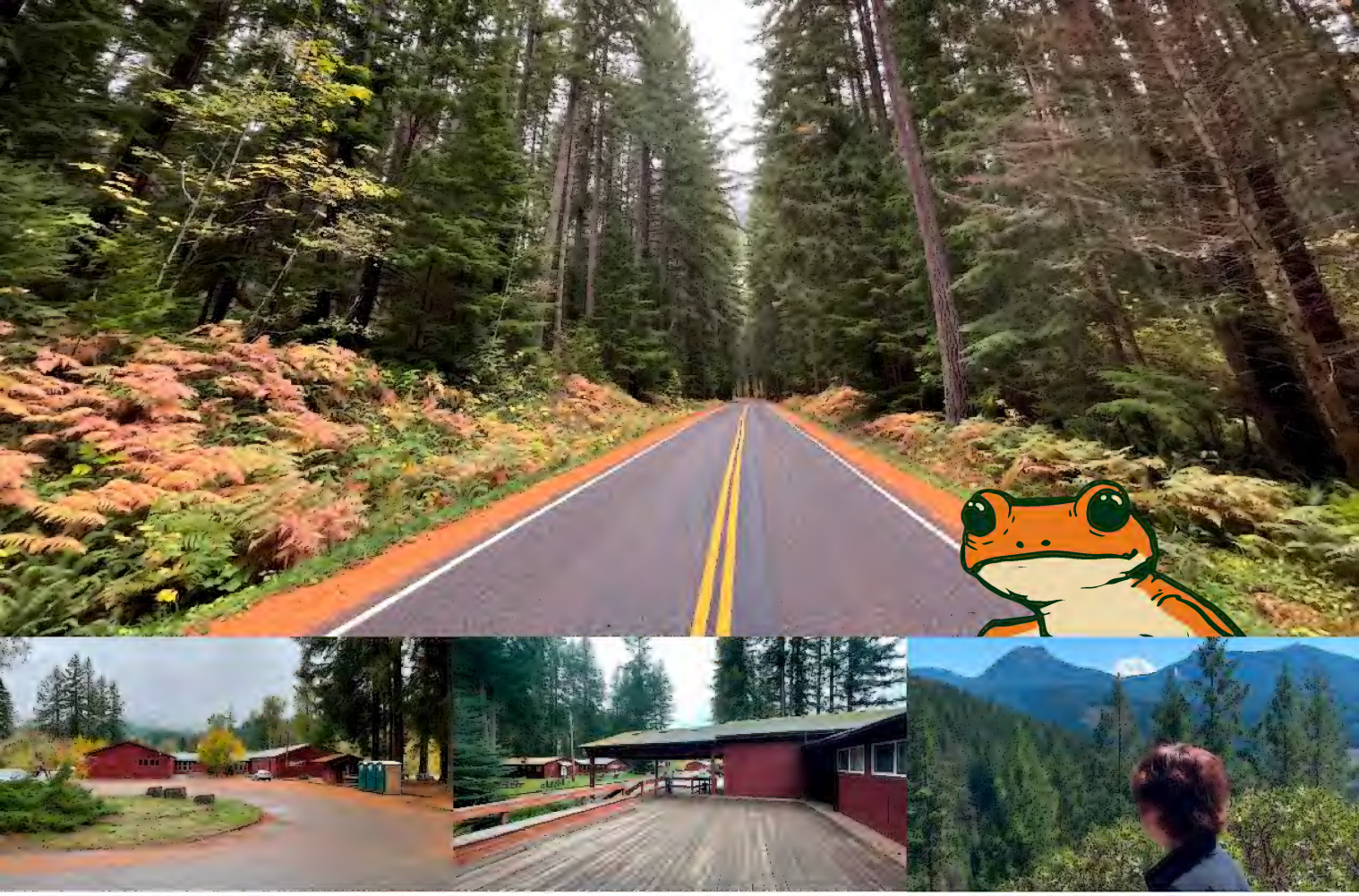
Get Ready for Pacific Northwest NAMA Camp!

KEN BUEGELEISEN, FORAY COMMITTEE CHAIR

Welcome to the real Washington—State, that is!

NAMA proudly joins South Sound Mushroom Club, and Southwest Washington Mycological Society and Kitsap Peninsula Mycological Society, to invite you to Pacific Northwest NAMA Camp this fall, in the Gifford Pinchot National Forest, at the Cispus Learning Center outside Randle, Washington.

Unless you live in this area, you may not already know that these forests are unlike anything you have ever seen before. Nestled among three active volcanoes, perennially rumored to be "Where Bigfoot Walks" through an



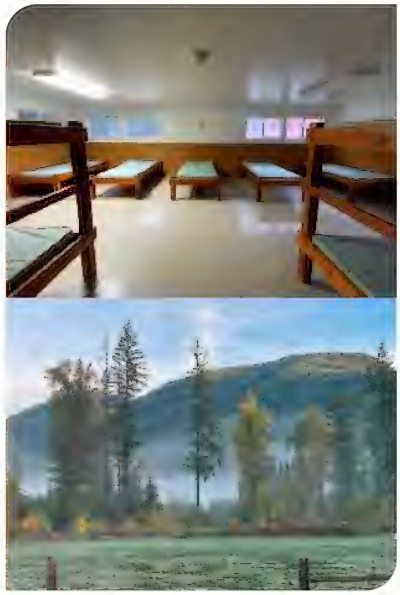
unusual temperate conifer-dominated forest with a densely ferny, mossy, brushy understory. Here, century-old trees are just teenagers, and fungi and lichens are abundant in the damp climate. The biggest trees, prior to logging, could be 15 feet in diameter and nearly 400 feet tall, and many are centuries old. Randle, the nearest town, gets 60" of rain a year—but the higher elevations where we will be receive even more! Elevations in the Cispus Learning Center area will range from 800 to 4,500'. Cispus itself is at about 1,100' elevation.

The Western Cascades of Washington State, where the Gifford Pinchot is located, are the land of giant conifers: dense huckleberry, Oregon grape and salal; mosses and lichens on absolutely everything and anything (moss does just about grow on rolling stones here); Methuselah's Beard (*Usnea*) lichens draping from trees in long elegant strands over 6 feet long; greater biomass per acre than tropical rainforests; elk, black bear, cougar; salamanders and slugs galore, including the second-largest terrestrial slug in the world; migratory salmon are scooped up, loaded onto trucks and driven around the hydropower dams (seriously); the eerie flute-like tones of the varied and Swainson's thrushes and the 300-notes-per-

minute trilling of the Pacific wren; volcanic soils, rocks, basalt towers; and steep bluffs and canyons. Fungi range from pin-sized clubs, cups and jellies, to the rare *Bridgeoporus nobilissimus* polypore, which can be 4 feet across!

The forest here is dense, cool and damp. You cannot navigate by the sun or by the moss on the trees—there's moss everywhere, on every tree—because you will not be able to see where the sun is and the moss grows on all sides of the tree trunks. You will see why people think Sasquatch could be hiding out there! Infamous bank robber D.B. Cooper was able to vanish completely, after all.

With the exception of mountain lions, which tend to be shy and secretive, dangerous animals are not a worry here. Western Washington is incredibly benign (eastern WA is a different story). There are no venomous snakes or



spiders, and ticks are uncommon. There shouldn't be any poison-oak in the Cispus area. Various hornets, both ground- and aerial-nesting, can be hazardous but will more than likely all be gone by the time we meet at Cispus. There are no grizzlies or wolves in the area. Hunting seasons for both bear and cougar will be open at the time of our foray and, realistically, game hunters may well be the most dangerous thing out there—which is why we recommend hunter orange or hi-visibility yellow safety vests or other outerwear.

The Gifford Pinchot National Forest is so special that it was named after the founder of the U.S. Forest Service himself. Come see for yourself.

Story from the site visit for Cispus in 2023:

The group is driving up the long tree-lined roads to the Cispus Learning center in the middle of the Gifford Pinchot forest.
Sam: *"I love this forest, but I just don't understand why there's so many fire hydrants on this road. It seems odd."*
The group looks around…
Sam: *"See there's one!"*
Everyone laughs.
"Those aren't fire hydrants, Sam, they're LOBSTER MUSHROOMS!!"

Tickets go on sale July 1, 2024

Every Participant receives a tee-Shirt with this year's logo winner design (above), a pillowcase with NAMA Logo (for trick-or-treat, and for a bunkhouse pillow), a swagbag and loads of mycofun for the whole weekend! All attendees will receive a snazzy official Pacific Northwest NAMA Camp tee-shirt (see image above).

- **The Full Ride:** Onsite stay at Cispus in communal bunkhouses; all meals, socials, lectures and forays, all 4 days: $525.00
- **Van Life:** Dry-camping for Trailers and Vans; all meals, socials, lectures and forays, all 4 days: $475.00
- **Commuter Pass:** Offsite stay at AirBnB or hotels; all meals, socials, lectures and forays, all 4 days: $425.00
- **Day Pass:** Choose Friday or Saturday, no overnight stay; 3 meals, evening social, lectures and forays for 1 day: $200.00
- **Sleeping Bag:** You will have an option to purchase a NAMA-branded sleeping bag for the Cispus communal bunkhouses if you prefer not to travel with your own bedding.

Workshop and Foray registration will open on September 1st, 2024

While all mushroom forays, presentations and socials are included in the price, the following workshops and programs have an additional fee:

- 4-day Beginners Track (see below) - includes ID books and mushroom knife
- Evening UV Forays - includes NAMA-branded UV light
- MycoPaint Workshop, basket weaving, and drop-in Craft Cave activities will have some nominal associated fees
- Culinary Arts workshops and demonstrations

Special offerings this year (registration for workshops and forays will open Sept 1st for Pacific Northwest NAMA Camp attendees)

Mushroom Foraging Beginners Track

Led by Rachel Zoller (aka "Yellow Elanor") and Jon Sommer (Colorado Mycological Society President), this immersive series of forays, classes, workshops, and one-on-one instruction is designed for beginning mushroom enthusiasts. This educational track includes a mushroom knife and a mushroom field guide.

Jon and Rachel co-teach classes and take this beginners group into the woods to find wild mushrooms of all kinds and learn how to identify them safely and collect them. You will bring your collected fungi back to camp to contribute to the mushroom ID tables; if they are edible, we'll have workshops to cook and taste them, or preserve them, or use them for arts and crafts. During the 4 days of the event, the folks who sign up for this experience will stay together while attending several lectures, workshops and forays along with Rachel and Jon. We want participants to get to know each other and help each other learn about the amazing world of fungi (teaching is the best way to learn!). This will be a life-changing experience for you!

Visual Arts—the Craft Cave

Led by Marion Richards with a lot of help from NAMA Visual Arts Committee Chair Rose Tursi and member Tiffany Theden. Not just a single arts-related workshop, this is a room dedicated to the myco-arts, with ongoing activities throughout the weekend. Marion also plans to lead a pine-needle basketry workshop.

Drop-in-style activities where participants can come and do a craft or two at their leisure. Activities:

- Dye station where participants could dye a small item, such as a silk scarf
- Watercolor MycoPaint station where participants could paint a small picture using watercolor paints and inks made from mushrooms
- Jewelry station where participants could create a small cabochon jewelry piece with mushroom art
- Mushroom block print station, and more.
- These stations will all be situated in the same room and each have a small materials fee that participants pay as they walk up. The Craft Cave will have "open studio hours" with no need for prior signup.

Culinary Consortium:

- **NAMAween!** The Halloween social will have a trick-or-treat theme. You get to explore the Cispus grounds and meet various people as you wander from station to station. Local vendors will share mushroom treats. You can dress up for this event, so bring your mushroom costume! If you want to share your special treats from home like mushroom jerky, kombucha, or something

pickled, for example, please let us know. We'd love to see what attendees are making as well.

- **Evening Socials:** Culinary workshop leaders and members of the NAMA Culinary Arts Committee will be cooking up mushrooms to taste during our evening social hour. You'll get to taste various local mushrooms of the PNW. We encourage folks to share what they found on the forays so that we have many different species to sample.

- **Mushroom Cocktails:** Mushroom beverage mixology-themed social hour. Members of the NAMA Culinary Arts Committee have fun ideas to share with you! Imagine cocktails and mocktails with candy-cap and chanterelle syrup, naturally fermented syrups, candy-cap/chanterelle salt to rim a glass, etc. If you have ideas you want to share, please let us know!

- **Voucher Collection Project ID Area and Mycophagy Tables:** For those in the group that are more interested in the edible mushrooms, we will be doing a table talk focused on edible vs. toxic mushrooms. We plan to add some signage on the ID tables regarding edibility. We will also have an area set up for people to donate edible mushrooms to be used at the social hour.

- **Culinary Arts Demonstration:** Focused workshop/demo related to the culinary aspects of mushrooms. We're still working on this, but this is always a popular offering.

- **Culinary-focused Foray:** This foray is focused on collecting edible mushrooms for the table. Various techniques will be taught, such as commercial mushroom grading, trimming and cleaning of edibles in the field, collecting tools, buckets vs. bags and other tips and tricks.

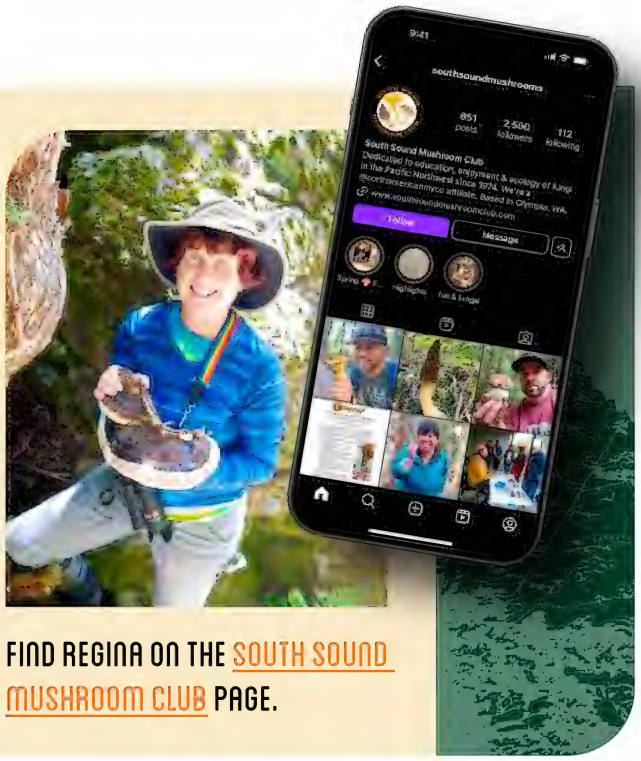
Mushroom Forays with mushroom-famous folks, including Michael Beug, Kristen Blizzard, Trent Blizzard, Marion Richards, Daniel Winkler, Shannon Adams, Danny Miller, Julie Schreiber, Syrena Whitner, Andrew Wilson, Melodie Gates, Graham Steinruck, Olivia Filialuna, Alan Rockefleller, Pat Mitchell, Rachel Zoller, Regina Johnson, Christian Schwarz, Noah Siegel, Rose Tursi, Aaron Hilliard, Gordon Walker, Jon Sommer, Sidnee Ober-Singleton and more!

Evening Keynote Presenters

THURSDAY EVENING KEYNOTE

Regina Johnson

With South Sound Mushroom Club



FIND REGINA ON THE SOUTH SOUND MUSHROOM CLUB PAGE.

Regina Johnson is a restoration ecologist working throughout western Washington. Being an ecologist means knowing a little bit about a lot of things, and how living things interact with each other and the abiotic environment. Turns out that fungi are a critical component of the biosphere, partnering with plants to provide nutrients, limiting plant populations through disease, and finally breaking down dead plants to create soil for the next generation of plants. Regina has been an SSMC member for just over a decade and is also a member of the local native plant society where, she serves as South Sound Chapter Botanist. At SSMC, she is known as the "Plant Lady," the "Polypore Queen" and serves as Foray Coordinator.

INSTAGRAM: BIODIVERSIPHILE

FRIDAY EVENING KEYNOTE

Christian Schwarz

Christian Schwarz studied Ecology and Evolution at UC Santa Cruz, where his interest in the world of fungi became irrevocable. Although he is passionate about ecology and biodiversity in general, Christian is most well known as a field mycologist. He has coauthored two field guides: *Mushrooms of the Redwood Coast* and the upcoming *Mushrooms of Cascadia*, both with

Noah Siegel. He primarily spends his time seeking, photographing, collecting, teaching about and publishing research on North American macrofungi and has served on the IUCN Red List Working Group for North American Fungi. He is a research associate of the Ken Norris Center for Natural History at UC Santa Cruz, where he teaches undergraduate courses in mycology and community science.

CHIEF MYCOLOGIST AND SATURDAY EVENING KEYNOTE

Noah Siegel

Noah Siegel's field mycology skills are extensive; he has spent over three decades seeking, photographing, identifying and furthering his knowledge about all aspects of macrofungi. He has hunted for mushrooms throughout the United States and Canada, as well as on multiple expeditions to New Zealand and Australia and Cameroon. He is one of the premier mushroom photographers in the United States, having won numerous awards from the North American Mycological Association (NAMA) photography contest. His technique and attention to detail are unrivaled, arising from a philosophy of maximizing utility for identification purposes while maintaining a high degree of aesthetic appeal. His photographs have appeared on the covers and have been featured in articles of multiple issues of *FUNGI Magazine*, the primary mushroom enthusiast magazine in North America, numerous mushroom books as well as many club publications. He authored, along with Christian Schwarz, *Mushrooms of the Redwood Coast, a Comprehensive Guide to the Fungi of Coastal Northern California* and *Mushrooms of Cascadia, a Comprehensive Guide to Fungi of the Pacific Northwest*, as well as *A field Guide to the Rare Fungi of California's National Forests*. He is currently working on *Mushrooms of Alaska*, with Steve Trudell and Kate Mohatt. Noah travels and lectures extensively across America, following the mushrooms from coast to coast and everywhere in between.

INSTAGRAM: MYCOHOBO

Announcing Results of 2024 Annual Foray Logo Contest

ROSE TURSI, VISUAL ARTS COMMITTEE CHAIR AND KATHY YERICH, MARKETING COMMITTEE CHAIR

We received 15 unique, inspired submissions from 9 individual artists. Thank you to all the talented folks who entered and we hope to see your stellar work again!

3RD PLACE

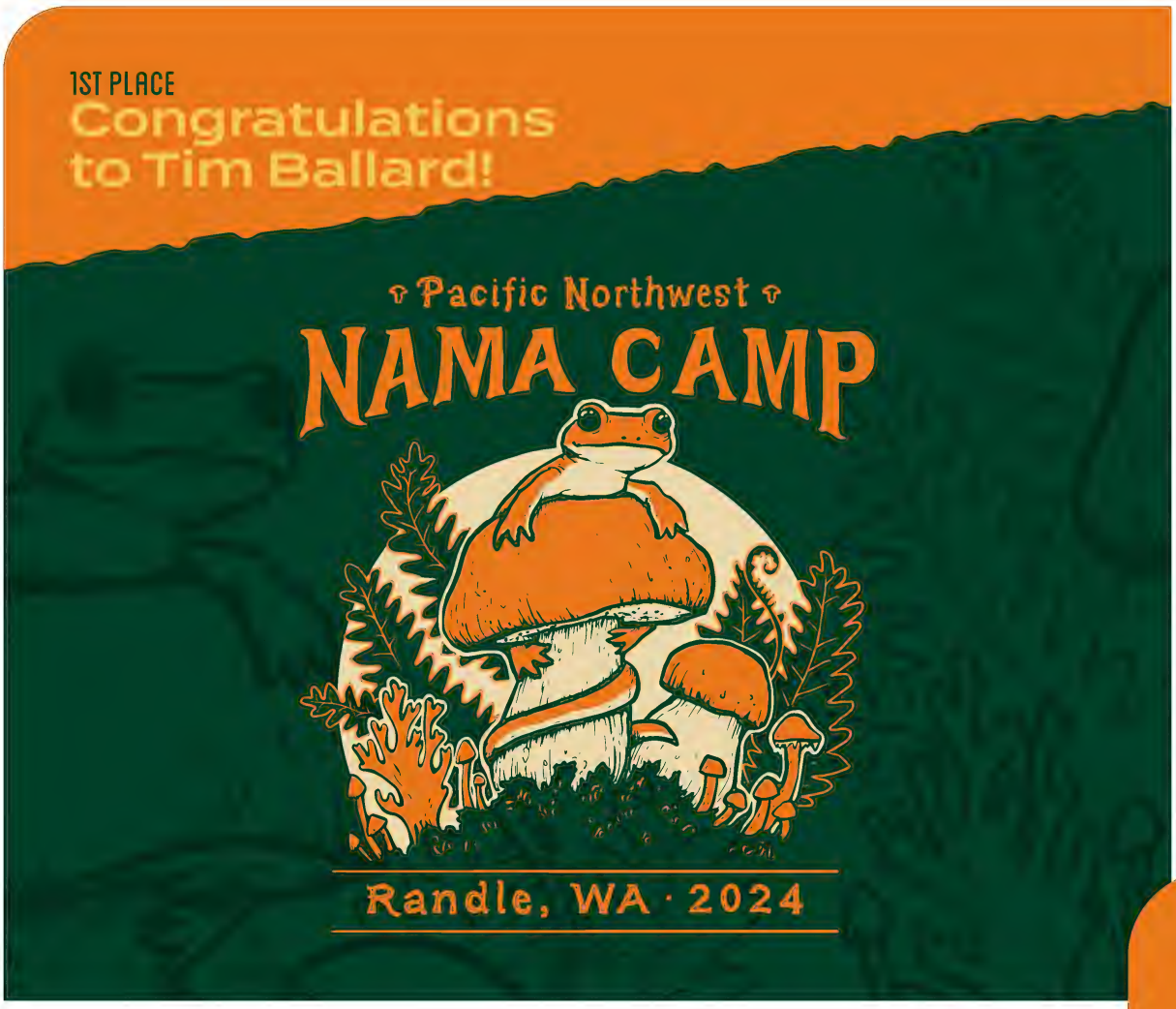
Chris Ross

Contest judges love the Northwest Coast tribal art style in this design, adore the banana slug and the easy-to-read, varied fonts. The colors are wonderful but the image does use three-color print, whereas the guidelines specify two colors. Overall, great design and we hope Chris will come back to the contest next year!

2ND PLACE

Tiffany Theden

NAMA members will recognise Tiffany's work from her winning design last year for Appalachia NAMA 2023! Both the designs Tiffany submitted stood out to us; we loved her incorporation of the area's three iconic volcanoes, as well as the *Stropharia ambigua* and the banana slug on one design and the *Strobilurus trulissatus* (Douglas fir cone mushroom) on the other; we gave thought to a possible combined version but because this is a contest and not a commissioned logo, we felt it wouldn't be fair to other contestants to request alterations. Following last year's win, Tiffany became a valued member of the NAMA Visual Arts Committee and we can't wait to see what she comes up with next!



This design feels ready to go as submitted! We love the renditions of real mushrooms, from our list of recommended regional species, including *Stropharia ambigua*, *Boletus edulis*, *Ramaria* and *Psilocybe* species. The *Taricha granulosa* (rough-skinned newt) depicted adds lively whimsy to this design. Most of all, we are thrilled with the font and color combination, which pays homage to NAMA's logo and accentuates the words "NAMA Camp." Way to go, Tim! We can't wait to wear and share this design with pride!

Tim Ballard describes himself as a semi-nomadic visual storyteller who has lived in the Pacific Northwest and is currently based outside of Asheville, North Carolina. He is a proud and grateful member of the NAMA-affiliated Asheville Mushroom Club.

Over the past decade, he has worked mostly in documentary film and educational media as a video editor, animator and illustrator; you can see some of his work at timballardcreations.com. When not on the clock, he can usually be found rummaging around for wild food in the mountains of Western North Carolina, obsessing over his vegetable garden, hiking with shelter dogs or working on illustrated narratives.

Winning entrant Tim Ballard and his beloved pup Chingu (photo by Mandy Choie).

Tim relates, "Due to the intersection of being a) constantly hungry; b) broke much of the time; and c) a lifelong nature boy, I was predestined to be a foraging enthusiast. I have foraged for wild plants since I was a teenager and in the past five years have made a greater effort to learn more about edible and medicinal fungi. Southern Appalachia has been a great place to increase my fungal knowledge.

He further shares,"I was very lucky to have moved to Asheville just in time to attend Appalachia NAMA 2023 and I was so impressed with the logo designed that year by Tiffany Theden. I love amphibians and think they make such a nice visual pairing with fungi, so this year, I decided to give it a try. Newts and salamanders are some of my favorite animals and I couldn't resist adding one in. When I lived in Western Washington and British Columbia, coming upon a newt in the drizzly woods always felt like a good omen. The one I drew is modeled on one of my all-time favorites, the rough-skinned newt (*Taricha granulosa*). They are virtually always looking fabulous, posed in some sinuous, sensual s-shape on dewy moss beneath ferns and surrounded by mushrooms, so this vignette calls back to my fond memories of the Pacific Northwest forests."

Photos: Jess Starwood, Michael Colosimo

NAMAZona Dreamin'

BARBARA CHING, NAMA PAST PRESIDENT; JESS STARWOOD, CULINARY ARTS COMMITTEE;
MICHAEL COLOSIMO, PRESIDENT OF ARIZONA MUSHROOM SOCIETY; BRUCH REED, CHIEF OPERATING OFFICER

Barbara Ching: *"I'm Arizona dreaming, trying to imagine myself foraying there, a place so different from most of the verdant woods we haunt in search of fungi."*

In myriad ways, Arizona *is* a dream; its iconic landscapes are the stuff of fervid reverie. The location of our foray is more like Colorado, northern California, or the lushly fungal mountains of northern Valle de Bravo in Mexico than the classic image of Arizona's Sonoran desert which, of course, is also breathtaking but is not so fungally bounteous. Arizona's Mogollon Rim has long been a well-kept mushroom secret, and one of the driving forces behind this event is to share that secret with NAMA members!

BC: *"How do you pronounce "Mogollon," as in "Mogollon Rim?"*

Excellent question! Most of us just learned last night in our NAMAZona Webinar that Mogollon is pronounced "MOE-gee-yon." The more you know!

BC: "Tell me more about this part of Arizona in August, especially about the lodging. What's the difference between lounging in an Airstream and baking in a convection oven?"

These Strawberry Inn Airstreams are luxe, with air conditioning—but also feature heat, which you are just as likely to need during our event! Local temps average balmy 70s and 80s during the day, with a cool-down to 50s/60s at night. It is monsoon season, so delicious warm rain is why we are there. It's comfy mushroom-hunting weather! You have a myriad of housing options at Strawberry Inn. Our NAMAZona Foray Registrar, Peggy Green, is happy to provide more information for attendees; she can be reached at forayregistrar@namyco.org.

BC: "What is the Mogollon Rim? Is it near the Grand Canyon? I'm glad to read that a variety of mushrooms may be emerging on the Mogollon Rim during the foray. Can I get more specific information? What mushroom species have been known to be fruiting there in August?"

The Mogollon Rim, located over 200 miles from the Grand Canyon, is a stunning geological feature in Arizona, marking the southern edge of the Colorado Plateau. Stretching across central Arizona for about 200 miles, this escarpment is a defining part of the state's landscape. It rises sharply from the surrounding lowlands, reaches elevations between 7,000 and 8,000 feet and provides spectacular panoramic views of the forests and desert below. The Rim is characterized by its dramatic cliffs and ledges, predominantly made of limestone

and sandstone, which give it a rugged appearance. The area is covered with a thick forest of ponderosa pines interspersed with spruce, fir and mixed coniferous trees, making it a lush contrast to the arid regions below. This environment supports a diverse array of mushroom species from chanterelles, the region's unique Ceasar's *Amanita* (*Amanita cochiseana*), lobster (*Hypomyces lactifluorum*) and cauliflower mushroom (*Sparassis americana* f. *arizonica*), stunningly scarlet *Amanita muscaria* and various edible boletes. The Rim is known for its unique confluence of western and eastern mushroom species.

BC: "Are our fungal finds going straight to the kitchen, or will some advance our Voucher Collection Project?"

This event is conceived to have a culinary focus; there is a Voucher component, but our Voucher Collection Project only needs one specimen, or a piece of one specimen, of each species collected to fulfill its mission to document and preserve research specimens of North American fungi at all our forays. For NAMAZona, we have multiple enthusiastic, expert chefs on hand to do wonders with any edibles attendees choose to donate to mycophagy, as well as to advise on preservation and recipes! Many of the Strawberry Inn accommodations offer kitchen facilities in which attendees can whip up their own mycophagical creations.

BC: *"What happens if pickings are slim? What will we eat? Or will that be an opportunity for pickers to get slim?"*

Ha ha ha good one, Madame Past President! We have chosen dates that are smack in the middle of what members of NAMA-affiliated local club Arizona Mycological Society judge to be the height of their mushroom season; their photos of baskets overflowing with edibles are legendary. Of course, one can never promise mushrooms for a foray; that's up to the mushrooms! But with multiple foray locations and ecozones from which to choose (thanks to mountain elevation) and local boots-on-the-ground to guide us, we are feeling good about the chances to taste the local funga.

BC: *"Will attendees have any opportunities for hands-on cooking?"*

Indeed, there will be such hands-on cooking opportunities! We will have two main opportunities for attendees to get up close and personal with the flavors of Arizona. We will discuss, taste and play with all sorts of wild foods from the surrounding Mogollon Rim pine forests as well as the Sonoran Desert. Most lodging accommodations have their own kitchens to cook and experiment in if folks feel called to do so with their finds of the day. Each afternoon, join one or more of our chefs for hands-on food-prep activities that will contribute to our nightly feasts.

BC: *"What's the best way to get to Strawberry, Arizona? What's the nearest airport? Are any airport shuttles available to take attendees to Strawberry?"*

The nearest airport is Flagstaff, which is located 56 minutes' drive from Strawberry Inn. Phoenix is 2 hours' drive away. While NAMA is not arranging shuttles (NAMAZona attendees will need their own vehicles to get to and from

foray sites), shuttles are certainly available from these airports, for nominal costs depending on the vendor and whether they are shared rides or private shuttles.

BC: *"Will non-mushroom-obsessed travel companions find enjoyable ways to spend their time at this event?"*

The landscapes we will visit are incomparably beautiful and the town of Strawberry is also very charming. As mentioned above, Flagstaff and Phoenix are not far away. One can spend a week at the Arizona Botanic Garden and not see it all, to say nothing of the renowned Phoenix-Scottsdale arts and culinary scenes.

BC: *"I read on the NAMA website that nonmembers are invited to buy tickets; don't all attendees need to be NAMA members to satisfy our insurance requirements?"*

It is indeed true that all attendees at NAMA events must be NAMA members and that does not change for NAMAZona. Folks who register for lodging at Strawberry Inn receive a complimentary one-year membership in NAMA with their event registration. Please note that this option is not available for Day Pass attendees.

BC: *"I feel as if I have to choose between NAMAZona and the Annual Foray, Pacific Northwest NAMA Camp, in Washington State. What are the key points to keep in mind as I make my summer plans?"*

Ah, the quandary of quandries! We always hope to see everyone in our community at every event but of course we realize that's often not possible. Both these forays are going to be spectacular. They are spaced pretty widely on the calendar, offering that chance to take advantage of both locations' prime mushroom seasons. The culinary focus of NAMAZona is unprecedented for us and its modest size of 100 attendees housed in luxurious, charming accommodations may be a draw for some folks who would like to experience a change from the much larger, traditionally more science-focused, communal-bunkhouse rusticity of Pacific Northwest NAMA Camp. Ultimately, NAMA must always take a *Field-of-Dreams* approach to foray events: we build it; please come!

Time to Claim Your Spot for NAMA_MX24!

ZACHARY HUNTER

In Mexican-Spanish only, the verb Honguer means "to pick mushrooms (yo hongo, tu honguiste, ...); which extends to those who pick mushrooms. This extremely knowledgeable little girl is a Honguera in training, perhaps a "Honguerita." (NAMA_MX23); photo - Kimberly Hunter

Mushroom season has officially started in Mexico, early as it is, with gorgeous *Amanita basii (sect. caesarea)* reported in various mountain states! For a country that has recorded nearly 400 edible species consumed by the Indigenous communities of Mexico, the excitement for the rains and all it promises (and more) is palpable!

By the time August arrives—which locals simply call "Hongosto" (mushroom month!)—places like Valle de Bravo become a lush, green, rainy, temperate pine forest, overloaded with fungi species from both sides of the broader North American continent

Chef Laura Cardenas-Armas shows off a huge parasol mushroom found right on the grounds of Hotel Rodavento (NAMA_MX23); photo - Zachary Hunter

ITINERARY OVERVIEW

August 3rd (Day 1): Opening Dinner and Mixer with Monstrua de Agua and Chef Mathias Vera-Cruz Dutrinet (Participants responsible for their own accommodations in CDMX).

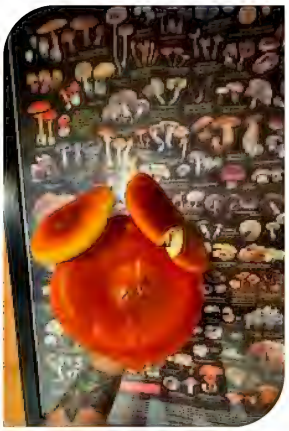
August 4th (Day 2): Travel by bus to Valle de Bravo, to the Hotel Rodavento, where we will be greeted by lunch, check in, a tour of the hotel grounds, as well as introductory courses for iNaturalist, vouchering, welcome talk, and a brief introduction about our foray locations and introductions to our field mycologists.

August 5th (Day 3): Our first full foray day with the Indigenous communities. We will enjoy lunch in the field, and the communities will have artisan goods for sale; We will return for dinner and an optional relaxed evening talk at Rodavento on our finds.

Amanita muscaria family in the Community of San Francisco Oxtotilpan (NAMA_MX23); photo - Kimberly Hunter

in the U.S. and Canada. While the majority of the U.S. awaits the autumn rains, the mountains of Mexico provide a bounty not to be missed for any North American mycophile.

Registration is closing soon, but a few tickets for NAMA_MX24, August 3 to 9, 2024, are still available! The itinerary this year leans into the best of last year's extraordinary inaugural event, with several returning community members, mycologists and chefs as well as exciting new participants and presenters!



To join NAMA_MX24, simply fill out the Registration Form found here, and event organizers will be in touch with the next steps shortly!

NAMA Trustee Elinor Shavit holds an exquisite Exsudoporus frostii (NAMA_MX23); photo - Zachary Hunter

August 6th (Day 4): Full day (Spa circuit open for all guests) of programming, panel on Mexican mycology in the present day, challenges, exciting developments, goals, followed by talks, and some discussion about our first foray and finds. The evening is free for your relaxation and enjoyment.

August 7th (Day 5): Our second full foray day with the other Indigenous communities. We will enjoy lunch in the field, and the communities will have artisan goods for sale; We will return for dinner and an evening talk at Rodavento on ethnomycology and the Indigenous perspective.

August 8th (Day 6): full day at Rodavento (spa circuit open for guests), foray onsite, chefs panel and presentations, cooking class extravaganza followed by our last-night dance party!

August 9th (Day 7): All good things must come to a close... We will enjoy breakfast at the Hotel, an ID Table Talk; wrap up with hugs and photos, and bus back to CDMX, stopping for lunch at local hotspot Yecapixtla. We expect to return to Mexico City and set you free in the Condesa neighborhood around 3:00pm!

MQ

DRS. CATHY CRIPPS, MICHAEL BEUG, HEATHER HALLEN-ADAMS (TOXICOLOGY COMMITTEE CHAIR)

In April 2023, 51 people fell ill and two died after eating at a sushi restaurant in Bozeman, Montana.

Subsequent analysis by the Montana County-State Health Department (2023), and ultimately the U.S. Centers for Disease Control, found that consumption of the specialty sushi roll containing morel mushrooms was strongly correlated with the outbreak. If morels were the cause, this is one of the most serious poisoning cases involving morels ever reported. The following information comes from local news reports by those who interviewed patients or their loved ones and from the two aforementioned reports. Bozeman is Dr. Cripps' hometown.

9:41
CDC
Morbidity and Mortality Weekly Report (MMWR)
Outbreak Linked to Morel Mushroom Exposure: Montana, 2023
Weekly / March 14, 2024 / 73(10);219–224
cdc.gov

The initial incident in April, involving numerous people experiencing vomiting, diarrhea and stomach pain, with one dead and another dying, was covered daily in local news reports. The "illnesses" all occurred between March 31 and April 17, 2023 and were linked to eating at a local sushi restaurant. A 74-year-old local man experienced violent vomiting after eating lunch/dinner at the restaurant and died the next morning. A 64-year-old woman experienced vomiting, kidney pain and trouble breathing within an hour of eating lunch at the sushi restaurant. She went into organ failure (kidney and liver) and died 12 days later at the hospital (Standol 2023). Her esophagus and trachea were also damaged. Both victims had preexisting conditions that might have affected their ability to tolerate severe dehydration. Both had eaten at the restaurant on April 17. Another victim was hospitalized but survived. A subsequent survey by those investigating the case found that a total of 51 people experienced adverse symptoms after eating at the restaurant during this period of time, including diarrhea (90%), nausea (83%), abdominal pain (68%), loss of appetite (61%), fatigue (58%), vomiting (54%), bloating (53%), lightheadedness (44%), dizziness (39%), headaches (37%), and chills (34%). Symptoms usually initiated within one hour of eating at the restaurant and resolved in 24 hours, with obvious significant exceptions.

Tests for foodborne enteric pathogens and selected volatile and nonvolatile organic compounds all came back negative. "FDA laboratories completed microbiological analysis, DNA testing, heavy-metals screening, pesticide, toxicological and poison screening of the samples. FDA performed general testing, not specific-compounds testing (GC-MS non-targeted general screen for toxins and poisons). Both volatile and non-volatile organic compounds were covered in the GS-MS non-targeting screening" (authors' personal communication with Gallatin Health Department). Reports indicate that the rice and the marinated morels were not available for testing; only pieces of mushrooms left in the bags were tested (*Bozeman Chronicle*, April 11, 2024).

Subsequent analysis by the Health Department found that 88% of those falling ill had consumed the specialty sushi roll containing morel mushrooms; most had eaten at least 4 pieces. Around 17% of the cases occurred on April 8 and 49% of the cases on April 17 (the date associated with the two deaths). Inspection of the restaurant turned up numerous other violations and it was temporarily shut down.

The small pieces of mushroom available were consistent with the structure of true morels (pits and ridges) and molecular analysis identified the species as *Morchella sextelata*. These were cultivated (fresh) morels from China. The batch in question was sent to one importer and then one distributor in California divided up the batch and sent portions to several restaurants in the United States. A follow-up survey found no cause for concern at the six establishments that responded. All reported cooking or thoroughly heating the morels.

Preparation at the sushi restaurant consisted of pouring a marinade of soy sauce, vinegar, honey and ginger over raw morels and soaking them for 75 minutes before adding them to the sushi roll. On April 8, the marinade was boiling hot, and on April 17 it was cold. The final report suggested that the boiling-hot marinade resulted in "partially cooked" morels. The highest number of poisoning cases occurred on April 17 (cold marinade), which was also the date associated with the two deaths. Increased consumption (more pieces of sushi) correlated with more diners reporting symptoms.

The final CDC report concludes that "uncooked or undercooked morels were

Morels near fire pit (photos by Dr. Michael Beug).

the likely source of the outbreak." The report suggests that "morels should be refrigerated at a temperature less than 40 F, in breathable packaging such as a paper bag" and that they should be "cooked thoroughly before consumption because cooking is likely to reduce toxin levels present in the mushrooms." The report notes that "morel mushroom toxins are not well characterized." There are four lawsuits pending.

Coincidentally, during the same time period, another tragedy was unfolding on the Green River in Utah. A group of five boaters started a planned nine-day river trip on April 12, 2023. That evening, "after a good first day on the river," they found a camping spot for the night. The party consisted of a 69-year-old man (P.D.) from Missoula MT, his two sisters, a nephew and a male friend.

P.D. cooked dinner for the two men while the others cooked and ate their own meals separately. P.D. had a "quart-sized Ziploc of dried morels" (this and quotes in the following three paragraphs are from P.D.'s wife, in an interview with Dr. Cripps) that he had picked on a burn a year earlier, which had been dried and stored in the freezer. Subsequent DNA analysis found that they were true morels (*Morchella*). No one watched P.D. cook the food. His wife suggests he likely rehydrated the morels as he had always done at home. It is not known if he boiled or sauteed the morels before adding them to Uncle Ben's Original Ready Rice Mushroom Risotto mix, which was prepared on a Jet Boil camping stove. This rice mix only needs to be heated for a few minutes, and simmering is difficult in a Jet Boil. The inside bottom of the Jet Boil pot was blackened, and apparently the meal did not taste good, either because it was scorched or because the morels may have been poorly cooked. Apparently, all the morels in the Ziploc bag had been added to the dish.

Western burn morels.

Within two hours of eating dinner, P.D. and his friend fell ill. "Both vomited and suffered gastrointestinal issues for several hours." The group that ate separately was fine. While his friend started to feel better, P.D. became more and more dehydrated. P.D.'s sister and his friend, both retired M.D.s, gave him sips of Gatorade diluted with water every 15 minutes. They also gave him one Phenergan suppository as an anti-nausea medication to quell the vomiting. This continued until 4 AM, at which time they let him rest. By 6:30 AM the next morning, P.D. had died. His body was later evacuated by helicopter.

P.D.'s wife told Dr. Cripps that his June 2022 harvest was copious and that they both had consumed many morels from June to October that year; P.D. continued to consume them up until April 1, 2024, two weeks before the river trip. Autopsy results state that death was due to "acute necrotizing gastritis," as stated for one of the sushi restaurant victims. Doctors found no underlying conditions. P.D.'s wife is trying to warn folks to "be aware of the risks of consuming morels."

FUNGI Magazine (Spring of 2021) had a ten-page update on morel mushroom toxicity by Josep Piqueras of Barcelona, Spain. The same edition of *FUNGI* contains a six-page summary of North American mushroom poisonings (all species) for the 2018 to 2020 period by Dr. Michael Beug. Notably, the Piqueras report includes a reference to a 2019 death from morel mushrooms at a one-star Michelin restaurant in Valencia, Spain, the only other death that we can find recorded for morels (Eustachewich 2019). The Valencia case involved lightly cooked fresh *Morchella sextelata* mushrooms imported from China. An elderly female customer died after suffering gastrointestinal distress and aspirating vomit, death due to "natural causes." However, there is an extensive record of

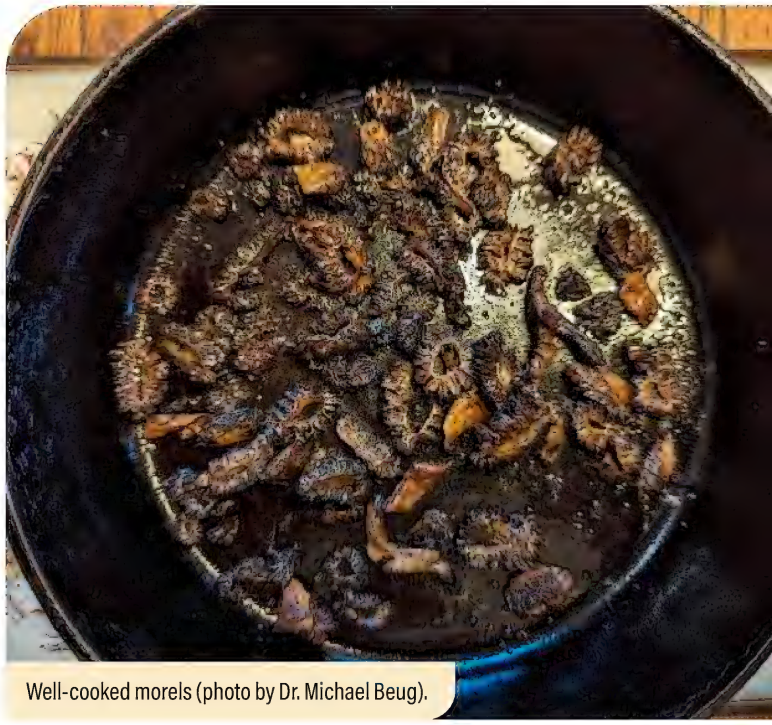
gastrointestinal upset, chills, disorientation and alcohol intolerance from raw and undercooked morels. It is clear from the Piqueras article that this set of symptoms is common in Europe after meals involving lightly cooked morels. Michael Beug and Jan Lindgren have both written about a 2019 banquet in British Columbia, where seventy-seven people suffered vomiting and diarrhea after raw morels (with raw shiitake) were served on a salad (Lindren and Beug 1997). Instances of gastric upset from morels can exceed poisonings by *Chlorophyllum molybdites* ("the green-spored sickener").

Raw morels contain poorly understood neurotoxins, although hydrazines are suspected (Lagrange and Vernoux 2020; Pfab et al. 2008; Saviuc et al. 2010), so consuming raw morels will cause problems for anyone who consumes more than a tiny amount. General guidelines suggest parboiling morels for 10 minutes before cooking and discarding the water. Drying does not eliminate toxins. This applies to both black and yellow morels. Upon cooking, the neurotoxins slowly decompose. Thus, lightly cooked morels are much less toxic than raw ones but can still cause GI distress and alcohol intolerance in sensitive individuals.

Dr. Michael Beug has been cooking and serving morels to groups of students and at forays for over fifty years, with alcohol available whenever permitted. In that time, he observed zero cases of adverse reactions to morels with or without alcohol. The difference is that he cooks morels until lightly browned and caramelized, never just lightly sautéed (Dr. Cripps cooks her morels until crispy). Also, Beug recommends that when consuming morels (or any other mushroom) for the first time, do so in a small amount until you know whether you are sensitive. Finally, be aware that, even after years of eating any mushroom species, you can become sensitive to that species and continuing to eat that mushroom can lead to worsening reactions in the future.

We would not want to issue a blanket condemnation of morel consumption. The gathering and consumption of morels is a significant activity, playing a valuable part in the springtime traditions of many people (Malone et al. 2022). Many foods require varying degrees of preparation before they can be safely consumed: uncooked (and undercooked) kidney beans have caused human poisonings, as well as improperly prepared cassava and unripe ackee fruit, all due to toxicants that are naturally present in the plants (Dolan et al. 2010). Meat requires adequate

preparation to eliminate foodborne bacterial pathogens. All mushrooms (not only morels!) should be thoroughly cooked; this practice also mitigates risk of bacterial food poisoning. Every year, illnesses and sometimes deaths occur from consumption of raw or undercooked mushrooms contaminated by *Listeria*, a soil bacterium destroyed by thorough cooking; since 2016 there have been many recalls of *Flammulina* (enoki) mushrooms worldwide for listeriosis, with at least four deaths (Food Safety News 2024).



Well-cooked morels (photo by Dr. Michael Beug).

As with any other foods, follow appropriate food-safety practices: morels, like any food, are susceptible to spoilage. Discard specimens that look or smell spoiled and preserve mushrooms you intend to keep for any amount of time (drying, or parboiling and freezing). Be sure of your species identification, for morels or any foraged food.

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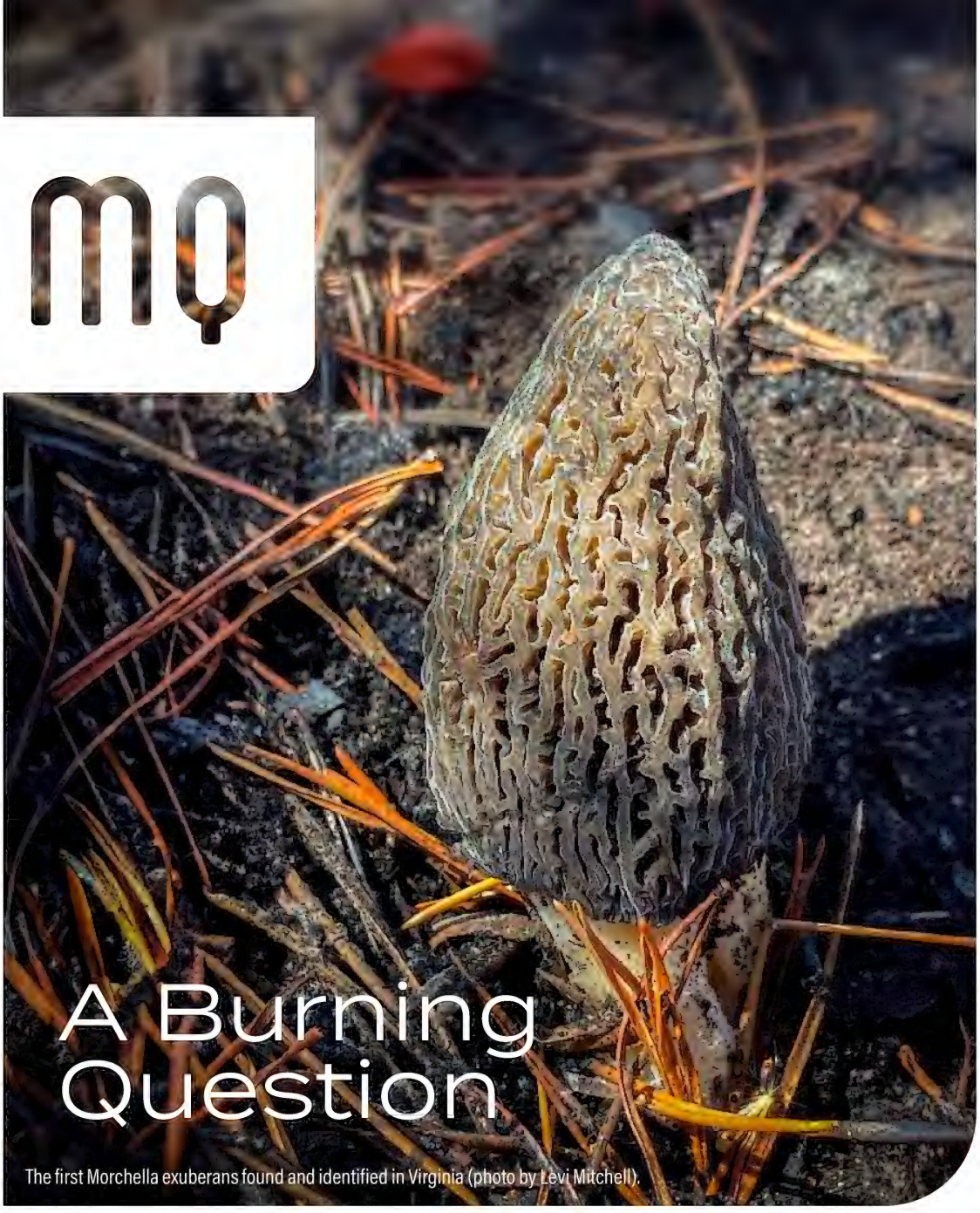

A Burning Question

The first Morchella exuberans found and identified in Virginia (photo by Levi Mitchell).

PAT MITCHELL,
PRESIDENT, BLUE RIDGE
MYCOLOGICAL SOCIETY

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Do burn morels fruit here in Virginia? Until recently, most mycophiles would have a quick answer: “no way; that’s a West Coast thing.”

A northern fungal-farming ant in the burn morel patch carries some tree pollen back to its nest to feed to its fungus (photo by Levi Mitchell).

Some have speculated about the possibility but no one has provided any proof. All of that changed just a few weeks ago in a short text I received from my 13-year-old son, Levi.

Levi has been deeply interested in myrmecology, the study of ants, for the majority of his life. One species that he has discovered in Virginia is called *Trachymyrmex septentrionalis*, the northern fungus-farming ant. Though quite common in South Carolina down to Florida, this is a remarkable find for our region. He has been observing this species at a very particular location for a number of years now.

The Matt's Creek Fire, which ignited the entire James River Face Wilderness Area in the fall of 2023, burned up the habitat in which Levi normally observes the *Trachymyrmex*. This spring, his mission has been to locate colonies. Prior to now, he had only observed wandering workers, which could have come from outside the burn areas. He wanted to confirm actual colonies within the burn areas. To accomplish this mission, he embarked on a venture that brought him much higher into the mountains than he normally goes to find them. On this particular day, he was accompanied by his friends Greyson and Gryphon Oliveira, who also happened to be interested in fungi and who are fellow members of the NAMA-affiliated Blue Ridge Mycological Society (BRMS). He would go on to locate multiple colonies of *Trachymyrmex* at that location but on this day, with his two friends, he also laid eyes on the first documented instance of a burn morel in the commonwealth of Virginia.

These *M. exuberans* were found in a burned zone high in the Blue Ridge Mountains (photo by Pat Mitchell).

During that first expedition, Levi and his friends found three morel specimens and they each took one home to preserve. For the next week, we shared photos with several friends who pick burn morels out west and Levi also created an observation on iNaturalist. Immediately, there was interest both from my mycofriends and the iNaturalist community. The consensus was that Levi had found M*orchella exuberans*. We could only find three recorded instances of *M. exuberans* east of the Rockies: the upper peninsula of Michigan, the Smoky Mountains in Tennessee and one iNaturalist listing from Massachusetts. The observation from the Smoky Mountains was the most thorough and was covered in a 2017 scientific publication*. One piece of information in that article was extremely helpful: the morels collected in the Smokies were found under Table Mountain Pine, *Pinus pungens*.

Armed with some data from the 2017 publication and a few conversations I had with Trent Blizzard, President of NAMA and burn morel expert, I set out with Levi one week later to explore the area carefully. From satellite imagery, I could tell that he had found them directly at the base of a stand of pines. Our goal was thoroughly to explore that entire stand. The terrain was extremely steep and in some parts quite dangerous but when we managed to get to the top, we immediately found a fresh mushroom in the very same spot Levi had first found them. This was extremely surprising, given that it had been dry and hot for the entire week before. As we ventured further among the pine trees, which we later confirmed to

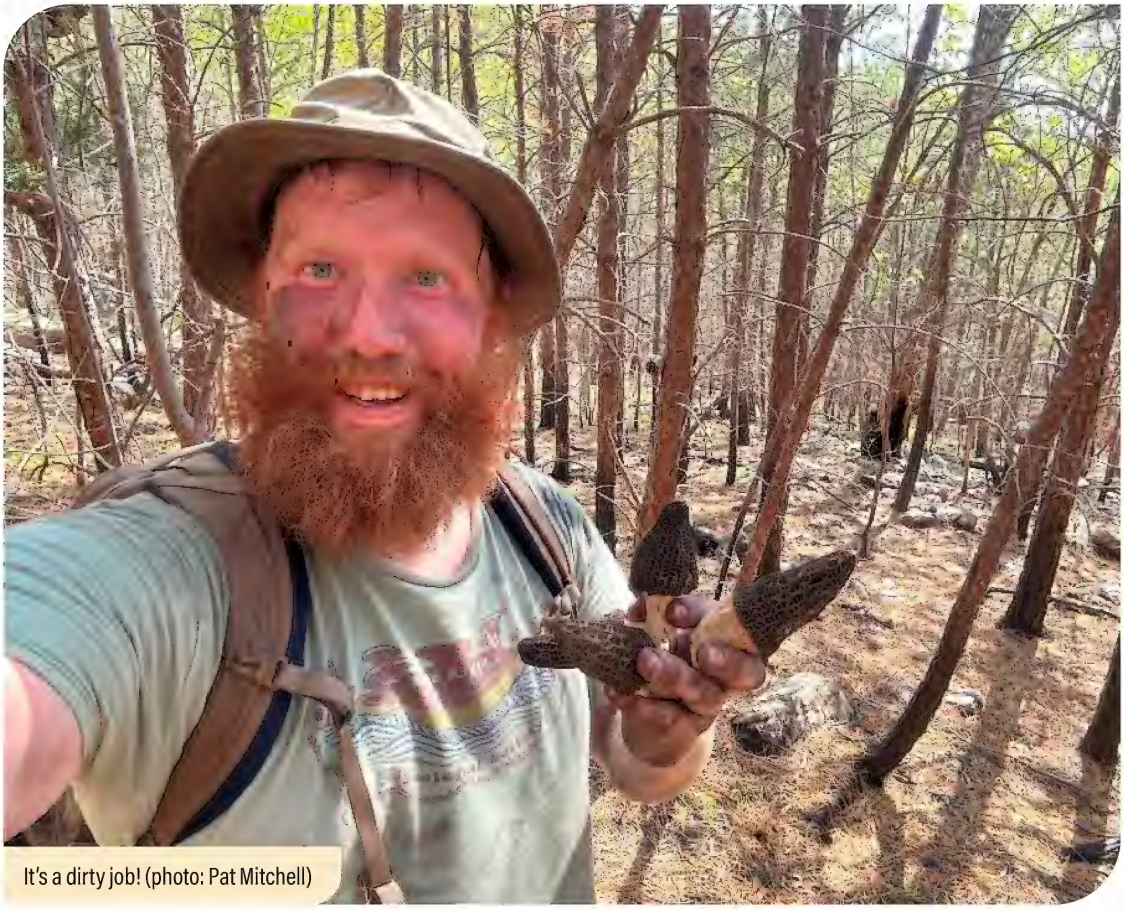
One of the five vouchers collected from various locations in the 11,000-acre burn (photo by Pat Mitchell).

be *Pinus pungens*, we started finding some patches of morels. The first bunch included about ten, the next one three, and then another cluster with five. We walked a little ways and that's where everything changed. Levi and I observed a patch of morels that stretched as far as we could see. We tried to walk around it but after almost 10 minutes of constant morels every couple feet, we gave up and went back to the beginning to start gathering the bounty. We picked until dark and brought home the largest haul of any mushroom I have had in Virginia. We almost never find large quantities of morels here; typically, we'll stumble upon enough to have one meal a year and sometimes I won't pick any outside of our annual BRMS morel walk.

In the following weeks, I visited five distinct pine stands all over the burn area. I really wanted to find out if this was an isolated incident or if it spanned across all of the *Pinus pungens* that were affected by the burn. All of the *P. pungens* locations that I found on the map were actively fruiting and I collected and vouchered specimens from each. We did not find any areas that were fruiting as abundantly as that first one, though.

Of the pine stands that we visited, five out of six of them were Table Mountain Pine (*P. pungens*). The sixth was Virginia Pine, (*Pinus virginiana*), and I only stumbled on it by accident on the way down from the most recent hike. I found no morels in that area.

Virginia burn morels with a water bottle for scale and a Chris "Corvidopolis" Adams sticker for context (photo by Pat Mitchell).



It's a dirty job! (photo: Pat Mitchell)

I've used three separate map services for my efforts: OnX hunt app, Modern Forager Burn Morel Maps and Google Earth. Each of them had its benefits. We have found morels in a range of pine stand sizes but most of the trees that we found them in are fairly young, with trunks that are the thickness of a human arm or leg. The south side of the burn seems to have fruited first, with the north side being about a week or two later in its fruiting cycle. The first site we found fruited four times, whereas the northern sites have only fruited twice and seem to have slowed down. We are eager to see what the next rain brings. In areas where fruiting is less abundant, the mushrooms seem to be concentrated on the downhill side of rocks or logs, possibly in response to microclimates with higher humidity levels. Each of these locations has been quite difficult to get to, and in some instances pretty dangerous. The hikes up are usually steep, include many boulders, and we encountered a venomous copperhead snake (*Agkistrodon contortix*) on the most recent trip. Please proceed with caution if you choose to venture out looking for these burn morels.

Myrmecologist Levi Mitchell taking a break from harvesting the burn-morel bounty (photo by Pat Mitchell).

Many burning questions remain. How long has this species been here? When was the last time that this region has burned so extensively? Was this species lying dormant under the soil as mycelium, sclerotia, spores or a combination of all three? What was the Table Mountain Pine population like the last time it burned? If the Indigenous Monocan people who resided in this region were actively managing these areas with burns, what was their relationship to this mushroom? What kind of megafauna, some now extinct to our region, once grazed on them? I love pondering these questions and I can't wait to meet this fungus again.

Due to the uniqueness of these finds, we are in the process of genetically sequencing some of the vouchered specimens with the help of Josh McGinnis, an independent genetic researcher connected to our club. I think my favorite part about this entire story is that this discovery was made only because my son was searching for a specific species of ant. There is so much about the world of fungi that remains unknown and sometimes it takes a different perspective to begin unraveling these mysteries. It was mushroom people who first observed the zombie ant, *Ophiocordyceps kimflemingiae*, in the state of Virginia; this was Levi's turn to even the score.

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LAWRENCE MILLMAN

The higher you go in New Mexico, the more likely you are to find fungi other than the occasional desert puffball (*Battarea phalloides*).

With altitude comes moisture in the form of rain or snow, not to mention humidity; lest you think otherwise, fungi (unlike us humans) do not tend to suffer from altitude sickness.

So there I was, leading a foray for the NAMA-affiliated New Mexico Mycological Society in the Sandia Mountains above Albuquerque. We started at 10,000 feet and slowly began walking higher. All at once I saw a large heap of elk dung decorated with orangish-yellow cup fungi. As these cups had small bristly hairs around the margin, I first thought the species might be a *Scutellinia* but since *Scutellinia* does not fruit on dung, I realized that it was a *Cheilymenia*, the so- called "eyelash dung cup."

Dare I say that my fellow foragers were more enthralled by the sight of this lovely ascomycete in the Pyronemataceae family

than they would have been by a morel? No morel species (prejudice alert!) is as colorful as a *Cheilymenia*, nor can *Morchella* boast such a captivating substrate as elk dung. Speaking of that substrate, it's quite scrumptious from a fungal point of view, for it contains lots of carbohydrates, along with cellulose, lignin and a high nitrogen content.

Here I should mention that the species was probably *C. fimosa,* which or may not be synonymous with *C. coprinaria.* According to Jiri Moravec, the world's foremost *Cheilymenia* expert, it might also be synonymous with *C. fraudans.* More work needs to done, which happens to be the concluding statement of most mycological papers. A pity none of those papers suggest that fungi delight in hoodwinking those individuals who study them. "Give us a binomial and we'll make fun of your expertise," they often seem to be saying.

Time passed. The folks on the foray were still bent over and gazing at the *Cheilymenia.* Words like "fascinating" and "charming" escaped from their lips. Catherine Williamson must have realized that this coprophile would be appropriate for *The Mycophile Quarterly*, for she took the pictures that accompany the text you've just finished reading.

Gordon Wasson 1957
Life Magazine cover.

A BRIEF EXPLORATION OF

Psilocybin-Containing Mushrooms

FROM THE 1950S TO TODAY

AVERY STEMPEL

Psilocybin-containing mushrooms have been making headlines for all the right reasons. From BBC World News and CNN, to small local newspapers like the Albany-area Times Union, reporters are introducing the general population to the world of fungi through flashy headlines and introspective thought pieces.

Here is a brief history of the modern world's exploration of psilocybin-containing mushrooms for those who are curious about how we got where we are today.

Prior to Western culture's attention over the last 80 years, various people around the world had incorporated psilocybin-containing mushrooms in their rites of passage, healing rituals and important ceremonies for hundreds, if not thousands, of years. In 1927, Russian-American ethnomycologist Valentina Pavlovna Wasson introduced her husband R. Gordon Wasson to the world of fungi. Their interest led them to Mexico, where they encountered Maria Sabina, a Mazatec Shaman, who agreed to allow R. Gordon to partake in a ceremony. In 1957 Wasson published an article in *Life* Magazine that introduced popular culture to the mind altering effects of *Psilocybe mexicana*. Mr. Wasson provided spores to chemist Albert Hoffman, who isolated the active compounds psilocybin and psilocin. An explosion of interest in the mind-altering effects of psilocybin-containing mushrooms occurred among researchers seeking to understand how humans think and feel and in the growing counterculture interested in directly experiencing altered states of consciousness.

In 1970, President Nixon signed the Controlled Substances Act into Federal Law. This new act listed psilocybin as a Schedule I drug with "no known medicinal benefits." All active research into the impact of psilocybin on mental well being in the United States was effectively ended. Personal consumption was made illegal and pushed underground. This action also isolated any mycologist advocating for the study of psilocybin-containing mushrooms and stigmatized their mention in academic circles.

Psilocybe ovoideocystidiata in situ.

Throughout the 1970s and 80s, very few and very limited studies focusing on psilocybin were allowed. During the 1990s, a resurgence of interest began to occur and more studies were approved across the United States. In 2000, Johns Hopkins

University received the first federal approval to study the effects of psilocybin in healthy individuals since the Controlled Substances Act was passed. According to www.clinicaltrials.gov, as of August 20, 2023 there are 127 studies currently approved across the world to study the effects of psilocybin. Researchers are proposing studies meant to investigate the impact of psilocybin on conditions ranging from concussion headaches [1] to mood and cognitive effects in healthy individuals [2]. There is now an active phase-3 study underway looking into the efficacy of psilocybin to ease the symptoms of treatment-resistant depression [3]. Completed studies carried out at NYU, Yale University, John Hopkins, Imperial College of London and other research universities in the last few years have sought to investigate psilocybin's effects on conditions such as depression [4, 5, 6, 7], suicidality [8], PTSD [9, 10], alcohol use disorder, [11, 12], addiction cessation for tobacco and opioids [13, 14], eating disorders [15, 16], end-of-life depression and anxiety [17, 18], frontline healthcare workers experiencing COVID-related burnout [19], debilitating migraines [20], and cluster headaches [21, 22]. Again and again, the efficacy of psilocybin to positively impact mental well being, aid in addiction cessation and foster relief from depression, anxiety, and other cognitive disorders has been proven. In May of 2023 the American Medical Association approved a Current Procedural Terminology code that would allow doctors and therapists to seek insurance reimbursement for providing psychedelic therapies [23]. In June of 2023, the FDA issued official guidelines on creating clinical trials using psychedelic medicines including psilocybin-containing mushrooms [24]. The FDA has also declared that psilocybin is a "breakthrough therapy" in treating major depressive disorder.

Today, a wave of interest in creating a safe system for regulated consumption has swept the world. On July 1st, 2023, Australia became the first country to legalize the compound psilocybin on a federal level for a very limited number of cases. Author Michael Pollan's book *How to Change your Mind* was turned into a Netflix documentary. *Fantastic Fungi*, a film in part about the medicinal impact of mushrooms, has also seen critical acclaim. Lawmakers across North America are proposing bills that would grant legal access to psilocybin in various ways.

Mexican Senator Alejandra Lagunes has introduced a bill to legalize and regulate psilocybin nationwide as an alternative treatment option [25]. In 2020, petition e-2534 to the House of Commons in Canada called for amendments to federal law that would allow adults to grow, possess, and share psilocybin-

containing mushrooms; the Minister of Justice and Attorney General of Canada responded that no changes would be forthcoming as relates to the Controlled Drugs and Substances Act. However, many exemptions for clinical trials and personal medicinal use have been granted [26] and in areas that have regionally decriminalized psilocybin-containing mushrooms, shops have opened and operate with impunity. As of August 20, 2023, there are 12 mushroom dispensaries open in Vancouver alone. At the federal level in the United States, Texas Republican Representative Dan Crenshaw, Michigan Republican Representative Jack Bergman, New York Democratic Representative Alexandria Ocasio-Cortez, and California Democratic Representative Lou Correa have introduced a provision to the National Defense Authorisation Act that would allow psychedelic therapy as a method of treatment for veterans and active-duty military personnel. Senators Cory Booker (Democrat - New Jersey) and Rand Paul (Republican - Kentucky) introduced the *Breakthrough Therapies Act* that would reschedule psilocybin down to a Schedule II substance [27].

Psilocybe ovoideocystidiata in situ,
East Coast of North America.

In the United States, state by state and often municipality by municipality, laws are changing. Dedicated people are seeking to create systems for consumption of psilocybin-containing mushrooms that will not result in legal persecution. Groups such as New Yorkers for Mental Health Alternatives, Capitol Psychedelic Coalition in Maryland, Baystaters in Massachusetts, CT Cannawarriors in Connecticut, Psilocybin San Francisco in California, the Colorado Psychedelic Community, Psilocybin Assisted Therapy Association in Oregon, multistate organizations like Cluster Busters and the Psychedelics & Pain Association, and many more [28, 29] have been meeting with lawmakers at every level of government. New York has had multiple bills including psilocybin accessibility proposed during the 2022 and 2023 legislative sessions. In Massachusetts, 5 cities have passed referendums deprioritizing psilocybin: Somerville, Cambridge, Easthampton, Northampton and Salem. Bills have been proposed or passed in Arizona, New Jersey, Texas,

Connecticut, Rhode Island, Massachusetts, California, Washington, Montana, Utah, Nevada, New Mexico, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Hawaii, Illinois, Michigan, Kentucky, Ohio, West Virginia, Virginia, North Carolina, Georgia, Florida, Maryland, Pennsylvania, New Hampshire and Maine. Colorado and Oregon have passed decriminalization and regulation statutes. There are only 15 states that have not had any psilocybin-related legislation proposed [30]. Advocates, researchers, and politicians everywhere are gathering together to foster the blossoming perception of psilobycin's many benefits, disentangle the misperceptions created in the 1970s and destigmatize this group of fungi. A time is quickly approaching when psilocybin-containing mushrooms are a legally accessible option.

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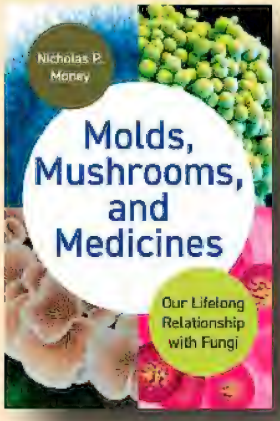
NAMA

Reads

Explore Captivating Literature Dedicated to Mushrooms and Mycology.

Molds, Mushrooms and Medicines, by Nicholas P. Money

BOOK REVIEW BY DEBBIE VIESS



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Available from publisher: $29.95

With clever turns of phrase and a deep understanding of the biological processes involved, Nik Money introduces us to the myriad ways in which humans interact with the omnipresent fungal world. Nik was first introduced to the dark side of fungi as a child, when he suffered a life-threatening asthma attack, one that he is convinced was caused by an over-abundance of fungal spores in the Thames Valley of southern England, where he grew up. But rather than this traumatic

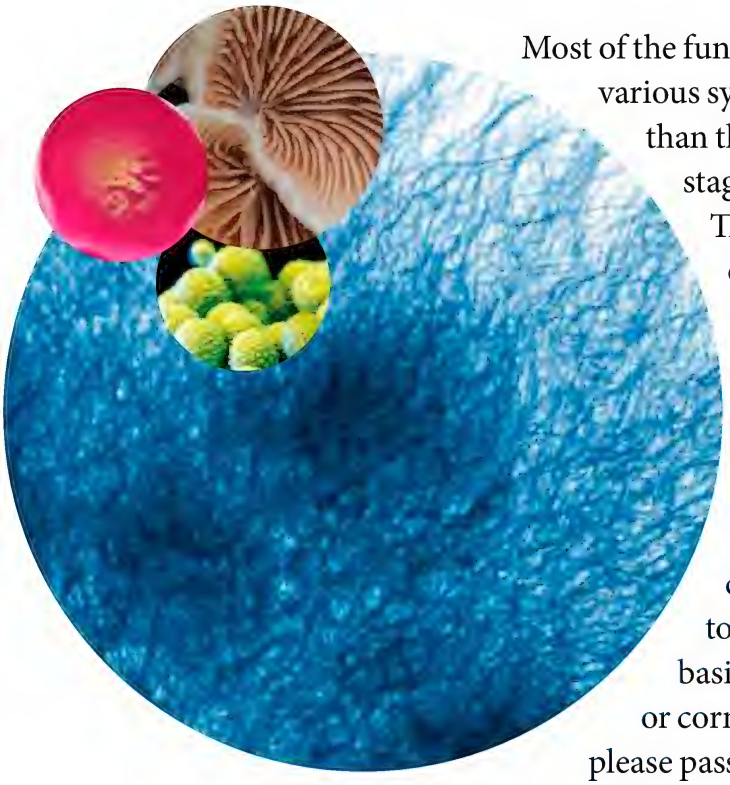
experience creating a life-long aversion to fungi, instead, he became fascinated by fungi, particularly spores, and he has been working with fungi and fungal spores professionally for most of his career. He refers to fungi as both the beauty and the beast, recognizing, on a deep personal level, their dual characters.

The book is broken into ten chapters. The first four chapters deal with our intimate relations with fungi, or our personal mycobiome: the molds and yeasts that live unremarked upon us and within us, and the gruesome ways in which our fungal/immune system balance can go awry. The next six chapters discuss our extended relationships with fungi, from fermented food and drink, to the production of life saving medicines, to deadly and disabling toxins produced by fungi. The historical uses of *Psilocybe* and other fungal entheogens by shamans and priests are covered as well as promising current research on using *Psilocybe* to help intractable mental conditions like severe depression. Finally, Money concludes with the ways that fungi make a more livable world, in their roles as the great recyclers.

As Money amiably and ably relates, fungi work invisibly within our guts and upon our bodies, in mostly benign ways, with bad behavior kept in check by our healthy immune systems. Although bacteria outnumber fungi in our microbiome, fungal mass outweighs them. Despite this, our fungal partners are seldom considered, either by ourselves or the physicians that treat us. When that delicate balance is broken, fungi can wreak havoc upon and within our bodies. Introducing fungi into the bloodstream or into organ systems other than within the gut can result in very serious consequences. I was surprised to learn that medical mycoses kill 1.5 million people each year!

Some of these fungi gone bad are described in gruesome detail, thankfully without illustrations. It is fortunate that humans are not a preferred fungal food source. Money relishes recounting how, on rare occasions, living humans are treated as food by fungi. Most are aware of the blood/brain barrier that

prevents access of toxins and the like to our brains. But fungal cells can cross the blood/brain barrier while hiding, unharmed, within the feeding vacuoles of macrophages. Once passed through to the brain interior, they escape their "trojan horse" through a process called vomocytosis, and are deposited into a rich field of unprotected protein. Money, most disconcertingly, favorably compares the amount of available protein in a human brain to that found in a large cooked chicken. Take that, omnivores!



Most of the fungi with which humans interact, in various symbioses, are yeasts and molds, rather than the mushrooms that normally take center stage in the lives of us mushroom hunters. This is true for the fungi that live upon our skin, the largest organ in our bodies, and within our guts. *Malassezia* is a common yeast that lives happily upon our scalps, feeding harmlessly upon sebum. Only when our mycobiomes become disarrayed do they have an overgrowth that results in the annoying condition of dandruff. I was taken aback to learn that the closest relative to this basidiomycete scalp yeast is *Ustilago maydis*, or corn smut. Urgh. Hold the huitlacoche and please pass the guacamole!

Fungi in the form of yeasts and molds are widely utilized to preserve food, create intoxicating beverages and enhance flavors, with the foods and beverages varying widely from culture to culture and continent to continent, but the fungi concerned stay rather the same. Money provides a nice history of early food uses of yeasts and molds by humans, and some amusing descriptions of awful tasting perishable foods given long shelf lives via the magic of fermentation, like the Icelandic hákarl, a sort of fermented shark (toxic when raw). He conjectures starvation as stimulus for creating this food, which has the "enticing" odor of cat urine.

Money, who is a vegetarian, also waxes eloquent over the making of cheese, one of the earliest uses of fungal microbes. He calls a cheese wedge "one of the wonders of the microbial world." As a former ovo-lacto vegetarian myself, I can relate. The meat substitute called "Quorn" is derived from a species of *Fusarium*. This mold, discovered in 1968, is able to convert starches into protein. Its discovery was a game-changer for creating alternative protein sources. Although protein rich, delicious, and vegetarian friendly, Money claims that its manufacture is also highly energy intensive, at least by the time it is made into "false chicken nuggets of the woods." Still, it's a better choice for the environment than eating animals. Regardless of your diet, this chapter will resonate with those of us who enjoy good food and differing cuisines, and/or eating weird new foods. It's a fine peek beneath the skirts of fungally enhanced foodstuffs.

Fungal medicines are described and discussed, from unequivocal ones like penicillin and cyclosporin, derived from yeasts and molds, to unproven remedies drawn from the fruiting bodies of fungi. Shiitake, cordyceps, turkey tails, etc., are all examined for real efficacy and the evidence mostly dismissed. Although Money rejects most of the hype and nonsense around so-called medicinal mushrooms, he does allow for the fact that there has been some promising research with *Hericium* and brain health, although he believes that should result in more research, not marketing. Money is a skeptic after my own heart.

Although Money also discusses the gathering of wild mushrooms for food, he places the topic under the chapter headed "Poisoning!" Methinks a certain British fungal bias is showing! His suggestions for avoiding poisonings are sound, however, and he also allows that those who deeply study fungi are likely to be able safely to forage them as well. But he would rather most stick to just a few readily identifiable species like morels and chanterelles and the like. His discussions of just how amanitins harm us after eating a Death Cap are thorough and lucid. He even mentions the odd rhabdomyolysis (muscle melting) poisoning caused by massive over-indulgences of *Tricholoma equestre* in Europe, and reasonably concludes that an occasional meal of these fine tasting fungi is unlikely to cause

any harm. When warning about the dangers of eating the wrong *Cortinarius* species, he claimed that there are 30 species that contain the kidney-destroying toxin orellanine. I could only come up with 4, and this is practically the only point in his book on which I disagree. Mycotoxins can also appear in our various farmed foods, like ergot on rye and aflatoxins on corn, peanuts, etc. Any moldy stored grain can form mycotoxins. He talks about case studies of these sorts of poisonings throughout human history, and even conjectures about why fungi might be poisonous at all.

Money opens his chapter on "Dreaming" with this lovely phrase: "Magic mushrooms light up the brain like fireflies in a meadow." He goes on to discuss the history of humans and entheogenic fungi, and how they may have led to religions, why we are affected by the chemicals in these fungi (we share brain chemistry, aka serotonin receptors, with flies and other insects, for whom these compounds were no doubt meant), what the physical and mental effects in humans are, the toxic effects and dangers of eating them (usually transient and mostly over-emphasized) and the interesting and perhaps life-changing modern usage of psilocybin to treat various intractable mental conditions, like severe depression and PTSD. Money provides a very balanced portrayal of *Psilocybe* use by humans, and the societal reactions to this use, which are changing rapidly.

Money's final chapter is titled "Recycling, The Global Mycobiome." He expands beyond the direct effects that fungi have upon us, and the ways in which we utilize them to our benefit, and looks at their larger picture upon Earth's ecosystems, even hypothesizing that other habitable watery planets far beyond our solar system might end up evolving something much like fungi. He believes this to be so due to the many and necessary roles that they perform, and for the simplicity and efficiency of their forms: filamentous molds and budding yeasts. Money calls them "agents of entropy," transforming energy frozen into one form of life, then breaking them down into the building blocks to create life anew.

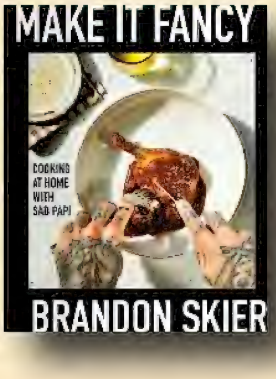
He describes fungal/plant symbioses, and emphasizes that these are not always benign processes. Regarding ectomycorrhizal fungi, Money describes the well-known, benign trope of mycorrhizal fungi: that fungi extend mycelia into the ground, coat the roots of trees and provide water and dissolved nutrients to their plant partners. An equal partnership, if you will. But then adds: "There is nothing charitable about this: clamped to the roots, the fungus drains as much sugar from the plant as it allows." Although some believe that trees are able to deliberately provide nutrients to other trees via the so called "wood-wide web," Money is skeptical, and finds it more likely that the fungi themselves are the beneficiaries of this dispersed sugar. Hooray for critical thinking. Arbuscular fungi, which are the mycorrhizal partners of our most important grain crops, are also mentioned, as is the growing agricultural trend of no-till farmland. Who needs harmful chemical fertilizers, if we just allow the arbuscular fungi, already found in untilled soil, to provide those necessary nutrients?

And then it's on to the necrobiome: the cooperative art of eating dead things. Fungi are specialists in eating plant matter, but they have their place in the decay of animals, too. Partnered with worms, beetles and bacteria, both yeasts and filamentous fungi help to break down all parts of a human body, with different fungi dominating at different stages of decay. I will leave you to read his descriptions for the gruesome details. As an amusing aside: the so-called "Mushroom Death Suit," popularized in a 2016 TED talk, will never work, since the fungi involved, oysters and shiitake, are white-rot fungi that dissolve only cellulose. Money allows that were a one-legged pirate to be shrouded in one, it would at least decay his wooden leg!

Nik Money's book is engaging and informative, and I am now privy to some fascinating details that I cannot wait to share with others. No matter how well versed you may be in our passion for mycology, there are sure to be many surprises in store for you as well. Money has provided for us an amusingly written opus on fungi, our beloved and hated, omnipresent, devils and angels of Spaceship Earth.

Make it Fancy: Cooking with a Sad Papi, by Brandon Skier

BOOK REVIEW BY GORDON WALKER, CULINARY ARTS COMMITTEE



Simon & Schuster/Simon Element,
March 5, 2024
256 pages
ISBN13: 9781668004241
$35.00

Make It Fancy: Cooking with a Sad Papi is a collection of methods and recipes from fine-dining veteran Brandon Skier, a chef who has amassed millions of followers on social media as @sad_papi/@sadd_papi. For me personally, Skier's food has been transformative. He has given me the confidence to approach making Michelin-level food at home with a focus on mushrooms and seasonal ingredients.

This cookbook is filled with beautiful food photography that not only highlights the finished dishes but also the process of making them. Skier's recipes are tried, tested and true, drawing on his years of experience in commercial kitchens. The techniques presented are simple but effective, ensuring dishes that are elegant but also easy to execute. Recipes build off each other, using elements prepared in different recipes to "make it fancy" while plating.

The book is organized into sections that focus on preparation, preservation, sauces, starters, salads, pastas, mains, sweets and drinks. Skier gives a great overview of how to shop locally and obtain seasonal ingredients. He also addresses some of the special equipment he uses to execute his recipes (note: most of this equipment is easily obtained by a home chef). All of his recipes include discrete measurements, cooking times and temperatures, and often provide extra notes from the chef.

"The Pantry" section is filled with straightforward recipes for making pantry staples that will greatly enhance dishes, including burnt onion powder, hot sauce powder and several nut/spice mixes. I made the pistachio dukkah according to the author's instructions, which required me to roast pistachio, pumpkin and sesame seeds and then chop/blend and mix with spices. I am now obsessed with dukkah; I love its nutty spicy savory flavor and crunchy texture. I have been using it on pasta, in desserts and sprinkled on fruit (mango in particular).

The "Pickles, Fermentations, and Preserves" section contains recipes that focus on preparing preserves in advance, including Skier's California take on kosho (lacto-fermented citrus and peppers), black garlic, cured egg yolks and fruit mostarda (fruit cooked down with sugar and mustard seeds). I followed instructions for making preserved lemons and they turned out great; I have been using them in sauces, dressings, pasta and braised dishes.

While working at restaurants, Skier was a saucier, so his cookbook offers a masterclass in building "Stocks and Sauces." The instructions for making beef stock, blonde vs. dark chicken stock, and mushroom stock are straightforward but detailed enough to yield a phenomenal product. Many of these stocks and sauces serve as bases for other dishes in the book.

The "Starters" section features seasonal ingredients like snap peas, shishito peppers, summer squash and more, cooked in relatively simple ways but embellished with puffed rice, spice mixtures and preserves laid out in the previous sections. Skier presents a method for making puffed beef tenderloin, resulting in an elevated beefy version of an ethereal, crunchy "pork rind." The roasted baby carrots on a bed of labneh (yogurt cheese) and dukkah is a must-serve dish for spring and summer menus.

The "Pastas" section features a tagliatelle recipe with morels that highlights the incredible flavor of these special mushrooms. The "Mains" section features an absolutely showstopping centerpiece dish of ribeye with scored, poached and grilled king trumpet mushrooms. The "Sweets" section has a recipe for a fig-and-ricotta tart that I cannot wait to try; this section also offers a great tutorial on making puff pastry by hand (if you're feeling ambitious). The "Drinks" section gives instructions for fermenting your own ginger beer (with yeast, a single-celled fungus) as well as a recipe for a sweet, creamy rice-and-cinnamon horchata beverage.

Overall, I am very impressed by Skier's book. His recipes are easy to follow and yield great results. His writing helps you learn techniques and methods to enhance your cooking in general, not just a particular recipe. The special touches used throughout the book truly elevate simple, seasonal food into something remarkably delicious. I wholeheartedly endorse *Make It Fancy* and highly recommend you check out the author's videos on social media.

Hunting Mushrooms: How to Safely Identify, Forage and Cook Wild Fungi, by Barbora Batokova

BOOK REVIEW BY CECILY FRANKLIN, PAST PRESIDENT OF WESTERN PENNSYLVANIA MUSHROOM CLUB (WPMC)

Page Street Publishing,
April 9, 2024
240 pages
ISBN-13: 979-8890030443
$29.99

No matter how many mushroom books you already have on your shelf, you will want to add this one to your collection. Whether you're new to mushrooms or an experienced mushroom hunter, you will keep coming back to this book. The only problem will be finding it in the kitchen, in a backpack or on your nightstand?

This beautifully organized book was written by NAMA-affiliated Western Pennsylvania Mushroom Club (WPMC) President Barbora Batokova, who has more than 125,000 followers on her Instagram account @fungiwoman. The book begins with helpful information about mushroom anatomy and lifecycle, where they grow, tips on how to identify mushrooms and what to take on a mushroom hunt.

Mushrooms are then divided into eleven groups: Amanitas, Boletes, Chanterelles & Trumpets, Toothed Fungi, Agarics, Polypores, Morels and Allies, Cup Fungi,

Jelly Fungi, Corals and Clubs, and Puffballs and Allies. Within each group are many spectacular photos, mostly taken by the author herself, as well as "Key Characteristics." More than two dozen species are shown in detail, with a "Quick ID Summary" and "Lookalikes" provided for each.

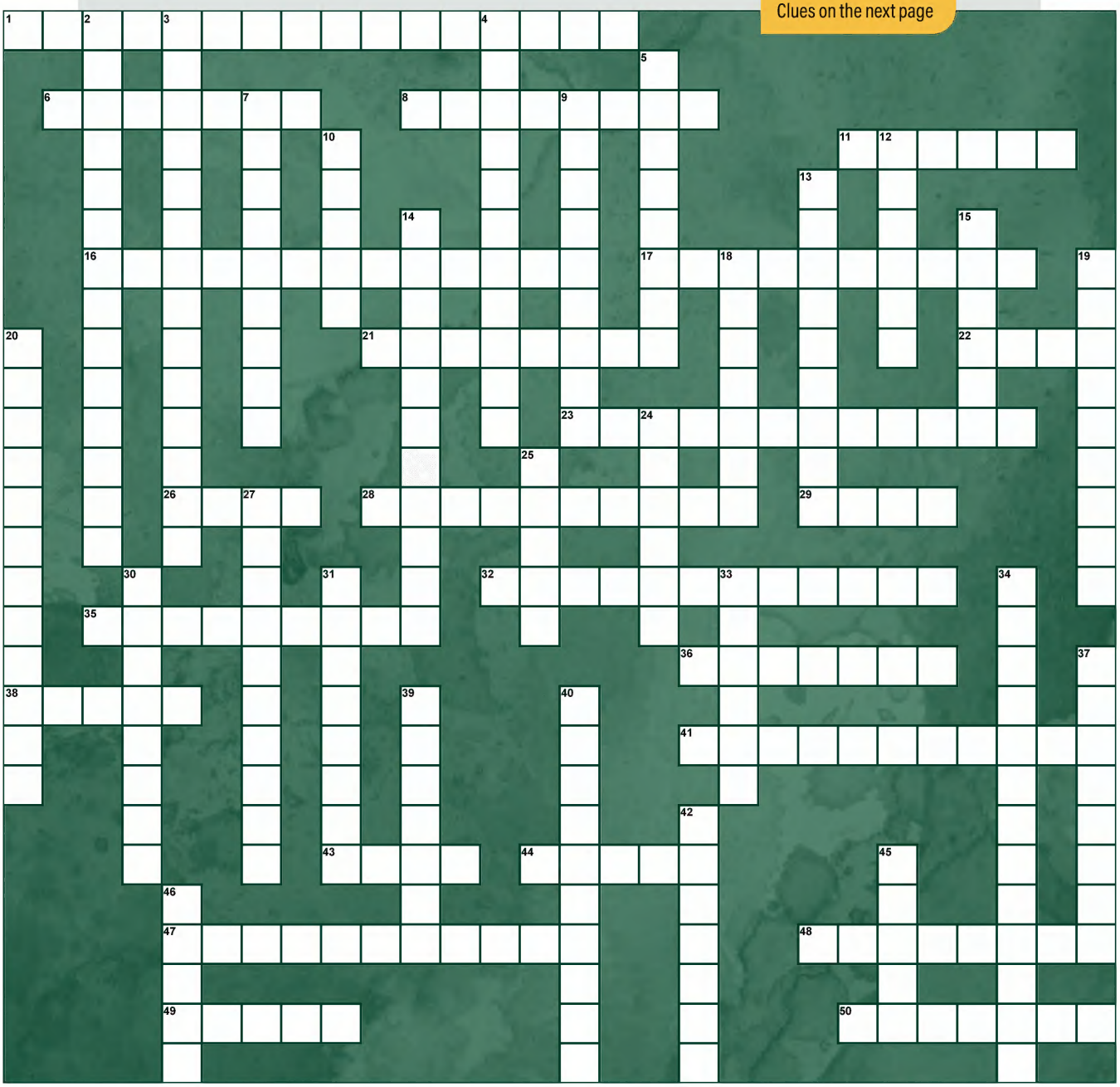
The book covers the full edibility spectrum, from delicious to deadly poisonous, and provides advice on cleaning, storing and preserving edible mushrooms. It concludes with 16 mouth-watering recipes, many inspired by the author's native Czech cuisine. These recipes range from appetizers and soups to pizzas, side dishes and hearty main dishes. You'll find many vegetarian recipes as well as some that are vegan or gluten-free.

Batokova's pride in the WPMC is evident throughout the book, from the introduction to the closing credits. She includes a photo of a WPMC walk with her advice to join a local mushroom club. You can order her new book at Amazon or Barnes & Noble.

NAMA Crossword

Remember when your teacher used to promise "there will be a quiz later?" Well, here's your quiz: the answers to this MQ edition's crossword can all be found somewhere within its very pages. Good reading! Good hunting! Good luck!

Clues on the next page



April May June MQ Crossword

Across

1 featured in Annual Foray logo
6 shroom-legislating Mexican Senator
8 "land of falling waters"
11 Cripps-y way to cook morels
16 ant studier
17 visually fraternal mycotwins
21 "aren't fire hydrants!"
22 crimson list
23 of edible mushrooms
26 a Visual Arts Chair by any other name
28 pint-sized Mexican mushroom expert
29 *Cheilymenia* substrate
32 staggeringly-sized PNW polypore
35 erumpent PNW mountains
36 rhymes with common wildfowl
38 Walker's favorite dukkah fruit
41 penny-ated herp genus
43 Chief Mycologist who would have ark-saved spores
44 inadvisable *Morchella* dish
47 city below the Sandia Mountains
48 new NAMA membership type
49 Batokova's native cuisine
50 morell-y unfortunate Montana town

Down

2 muscle melting
3 culture of mushrooms
4 uncooked-enoki malady
5 his Money is on mushrooms
7 bubbly burn-morel epithet
9 classic comfy campy digs
10 pharmaceutical-scheduling President
12 WA Mt.
13 Deb "realm of prisonblades"
14 vacuole-escape process
15 literal SSMC Polypore "Queen"
18 a talented Dukakis and PNW State Capital
19 edifice of campy beds
20 genus of Levi's ant
24 winner's beloved pup
25 *Fusarium*-y foodstuff
27 fruitful AZ inn
30 "August" in northern Mexico
31 NAMAZona's breathtaking edge
33 prudent sartorial forest hue
34 NAMA's filmographical foray philosophy
37 PNW's absent serpent category
39 mushroom artist Heather Brooks' oeuvre
40 biblical beard festooner
42 perfect Pinchot that won't be an autumn stranger
45 lactofermented *Citrus* and *Capsicum*
46 Skiier wants you to make it

Answer Key to January February March MQ Crossword

Across

1 "River Teacher" *Psilocybe* – *ovoideocystidiata*
8 towering Todd, "The King of Mushrooms" – Spanier
10 fungal-chum groups – mushroom clubs
15 yer "flush" marketing maven – Yerich
18 mushroom "seeding" – sporulation
19 Iberian "gain" + skin – *Ganoderma*
23 genus of envy-hued psittacine – *Gliophorus*
25 pleasing fungus ___ – beetle
27 current count of officially mushroomed states – four
28 cat-king's ruff – lion's mane
29 one mode of living – parasitic
30 circular annelid contagion – ringworm
31 on *Quercus,* bald bark betokens – *Aleurodiscus*
33 *Life*'s Indigenous curandera – Maria Sabina
34 a fairyfire fungus – *Omphalotus*
35 pectinous medium – agar
36 old = not ___ – bold
38 one who can name many – parataxonomist
40 Past President (*cha*-___) – Ching
41 red/green is even tastier than excellent orange – lobster
43 *aussi "girolle," en francais* – chanterelle
48 viscid PNW banana – slug
51 UK "St. George's" genus – *Calocybe*
52 timber-broad tangle – woodwide web
53 makes macro – microscope
55 "Fungi" until 1969 – Plantae
57 saprobe – decomposer
59 when it rains, these pour forth – *Pleurotus*
61 fungal integument – hyphae
62 "Just Another ___" – *Russula*
63 VCP Recorder rollin' in the deep – Adele
64 ...*The Secret Lives*... author – Bunyard
67 was twofer, now threefer – lichen
68 late, great Gary – Lincoff
70 "tunesome" Treasurer – Melodie
71 longtime VCP Chair – Leacock
72 genus of "burns" and "naturals" – *Morchella*
73 fungus fan - mycophile

Down

2 prawn-of-the-[Celtic]-"*fee*" – shrimp of the woods
3 maybe Metamucil-noggin genus – *Inocybe*
4 1st official-mushroom state – Minnesota
5 *Chlorociboria* – greenstain
6 dark-agenda'd "angel" – destroying
7 spirits-steeped – tincture
9 a raggedy margin is – appendiculate
11 *Fantastic Fungi* maker – Schwartzberg
12 NAMA-founding mycopowercouple – Knightons
13 also shelf – bracket
14 has his very own polypore – Bondarzew
16 genus Catalans consume with gusto – *Hygrophorus*
17 "golly Mister [current VCP Chair]!" – Wilson
20 coloring chemical – reagent
21 humongous fungus genus – *Armillaria*
22 "The King" – porcini
24 *Galerina* "*dong*!" – funeral bell
26 bruin's bean-gnawer – bears head tooth
29 penned *Cordyceps*-cultivation tome – Padilla-Brown
32 "The Prince" epithet – *augustus*
37 convene to collect – foray
39 doddering sylvan fella – *Strobilomyces*
40 "Golden Teacher" *Psilocybe* – *cubensis*
42 two-step essential ID diagnostic – taste and spit
43 *Terana caerulea* – cobalt crust
44 COW, kinda – *Laetiporus*
45 tree-shroom handshake – mycorrhiza
46 ewe pate – sheepshead
47 inky melting – deliquescence
49 golden grand giggler genus – *Gymnopilus*
50 frigid powerful Prez – Blizzard
52 vino lid – winecap
54 plush tootsie – velvet foot
56 chompy dispersal structure – teeth
58 wound-healer, per Hayden Tyler Johnson – puffball
59 operatic rust – *Puccinia*
60 *Alnus* adhesive – alder glue
65 you can riffle them – gills
66 hotel chain or rockstar NAMAZona shroomchef – Hyatt
69 continental mycoclub umbrella – NAMA